

SVP SECTION

Contents

SVP01-10	1. How to Operate the SVP (PC)
SVP01-10	1.1 How to use Windows
SVP01-40	1.2 Running the SVP by Specifying a File Name
SVP01-50	1.3 Executing SVP Connect Utility
SVP01-60	1.4 Connecting the PC to the SVP
SVP01-60	1.4.1 Connection to the SVP
SVP01-90	1.4.2 Restoring the previous connection
SVP01-120	1.4.3 Checking the connected subsystems
SVP01-130	1.5 Disconnecting the SVP
SVP01-140	1.6 Windows Screen Component Nomenclature
SVP01-150	1.7 Power On
SVP01-160	1.8 Power Off
SVP01-161	1.9 SVP reboot
SVP01-170	1.10 SVP LED display specification
SVP01-200	1.11 Mode
SVP01-210	1.12 How to reference the manual on CDR
SVP01-210	1.12.1 Preface
SVP01-220	1.12.2 How to reference the manual
SVP01-230	1.13 Handling of USB memory
SVP01-230	1.13.1 How to remove USB memory
SVP01-250	1.14 Update Maintenance Password
SVP02-10	2. Function of the SVP
SVP02-10	2.1 TOD (Time Of Day) setting
SVP02-30	2.2 Log indication
SVP02-220	2.3 Log delete
SVP02-240	2.4 Monitoring
SVP02-240	2.4.1 Monitoring
SVP02-330	2.4.2 Processing Information Monitoring Function
SVP02-360	2.4.3 Gathering LDEV Processing Information Selection Function
SVP02-390	2.5 Online read margin (ORM)
SVP02-560	2.6 SIM Reporting Specification
SVP02-580	2.7 Management of drive threshold values
SVP02-650	2.8 SIM Log Complete
SVP02-670	2.9 Dump/AutoDump

SVP00-20

SVP02-850	2.10 Logical Device Maintenance
SVP02-850	2.10.1 Format of Logical Device
SVP02-890	2.10.2 Block Logical Device
SVP02-930	2.10.3 Restore the Logical Device
SVP02-980	2.10.4 Verify Logical Device
SVP02-1050	2.10.5 LDEV recovery for multiple PDEV failures
SVP02-1060	2.10.6 Format all blocked Logical Devices together
SVP02-1090	2.10.7 Quick Format of Logical Devices
SVP02-1130	2.11 Pin Data indication
SVP02-1150	2.12 Multi PCB Replace
SVP02-1240	2.13 System Option
SVP02-1300	2.14 (Blank)
SVP02-1350	2.15 PCB/SFP Revision Display
SVP02-1370	2.16 Setting Battery Life
SVP02-1390	2.17 Setting Machine Install Data
SVP02-1420	2.18 SVP Switching
SVP02-1440	2.19 Configuration Information Transfer
SVP02-1460	2.20 SFP type change operation
SVP02-1460	2.20.1 Batch type change
SVP02-1490	2.20.2 Changing type specification
SVP02-1550	2.21 Setting Synchronization Information
SVP02-1550	2.21.1 Setting Synchronization Information
SVP02-1590	2.21.2 Confirm Setting Synchronization Information
SVP02-1600	2.22 Fixed time SVP reboot setting
SVP02-1600	2.22.1 Fixed time SVP reboot the setting method
SVP02-1620	2.22.2 Fixed time SVP reboot the setting release method
SVP02-1630	2.23 (Blank)
SVP02-1640	2.24 (Blank)
SVP02-1650	2.25 Restoring Failed MP
SVP02-1690	2.26 System Tuning SVP Procedure
SVP02-1690	2.26.1 System Tuning
SVP02-1800	2.27 Failed Cache recovery
SVP02-1850	2.28 Setting IP address
SVP02-1900	2.29 Use of OnlineDumpTool
SVP02-1900	2.29.1 Installation
SVP02-1940	2.29.2 Uninstallation
SVP02-1950	2.29.3 Upload procedure
SVP02-2010	2.29.4 Reference of uploaded results
SVP02-2020	2.29.5 Message Table
SVP02-2050	2.30 Change CM Module group size
SVP02-2120	2.31 Setting System Option Mode

SVP03-10	3. Activating and Terminating STATUS
SVP03-10	3.1 Activating STATUS
SVP03-40	3.2 Terminating STATUS
SVP03-50	3.3 Updating the STATUS display
SVP03-60	3.4 Main screen
SVP03-100	3.4.1 Subsystem information view
SVP03-110	3.4.2 DKC information view
SVP03-120	3.4.3 DKC Front information view
SVP03-170	3.4.4 DKC Back information view
SVP03-220	3.4.5 Disk Unit information view
SVP03-230	3.4.6 HDU information view
SVP03-270	3.5 Copy Status view
SVP03-280	3.6 Logical device window
SVP03-320	3.6.1 List of Group Information
SVP03-340	3.6.2 List of Device information
SVP03-360	3.6.3 List of LUSE information
SVP03-370	3.6.4 Shredding operation information
SVP03-380	3.7 Version of Microprogram
SVP03-470	3.8 Path of HTP
SVP03-510	3.9 Pin
SVP03-530	3.10 LUN Management
SVP03-640	3.11 Inter-PCB Logical Path
SVP03-670	3.12 Error or Failure Status Action

1. How to Operate the SVP (PC)

1.1 How to use Windows

(1) Notation

In this manual, “select” has the following three meanings, and (CL), (DC), or (DR) is added to the word for each meaning.

(CL) Click: Quickly press and release the left side button of mouse.

(DC) Double-click: Click the left side button of mouse twice in rapid succession.

(DR) Drag: To hold down the left side button of mouse while you trace the mouse to move the pointer to a desired position. Then release the button.

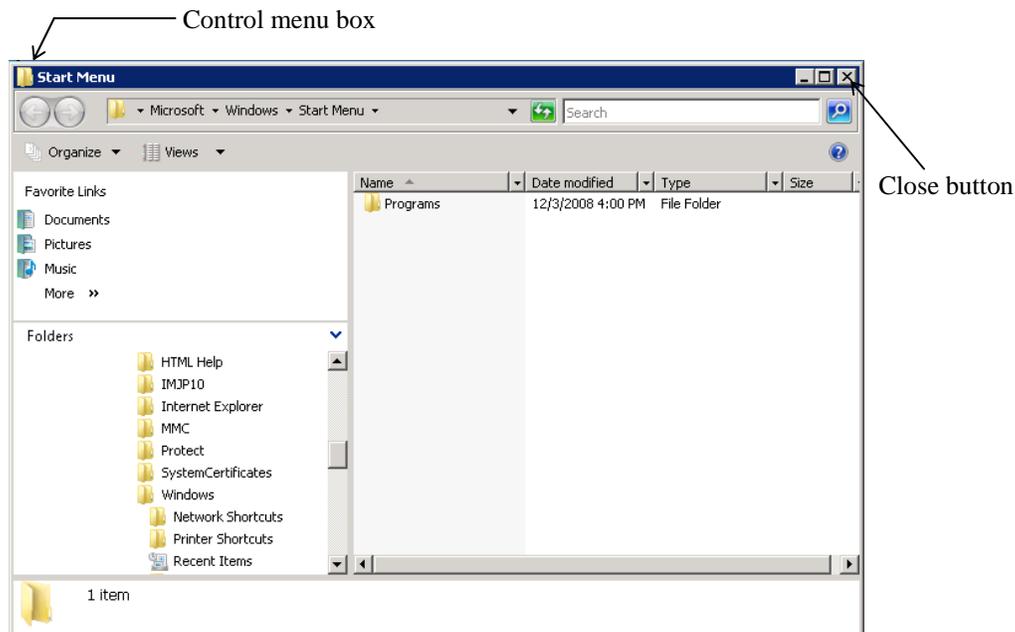
example: Select (DC) the [Install] icon in the ‘SVP’ window.

Move the pointer to [Install] with the mouse. Then click the button the Move the pointer to [Install] with the left side button of mouse twice in rapid succession.

(2) Close

“Close” means to close the application window.

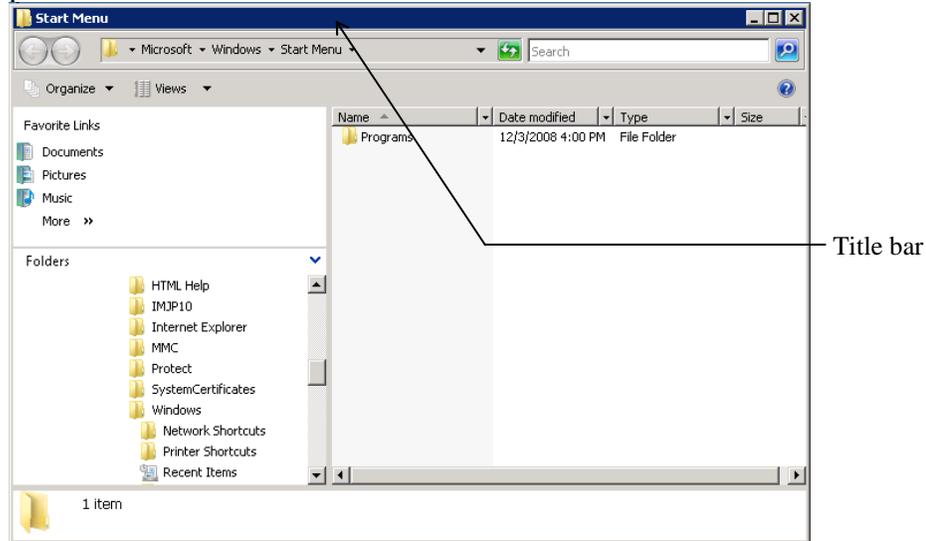
(Double-click the control menu box of the window or click the close button for window.)



(3) Moving the Window

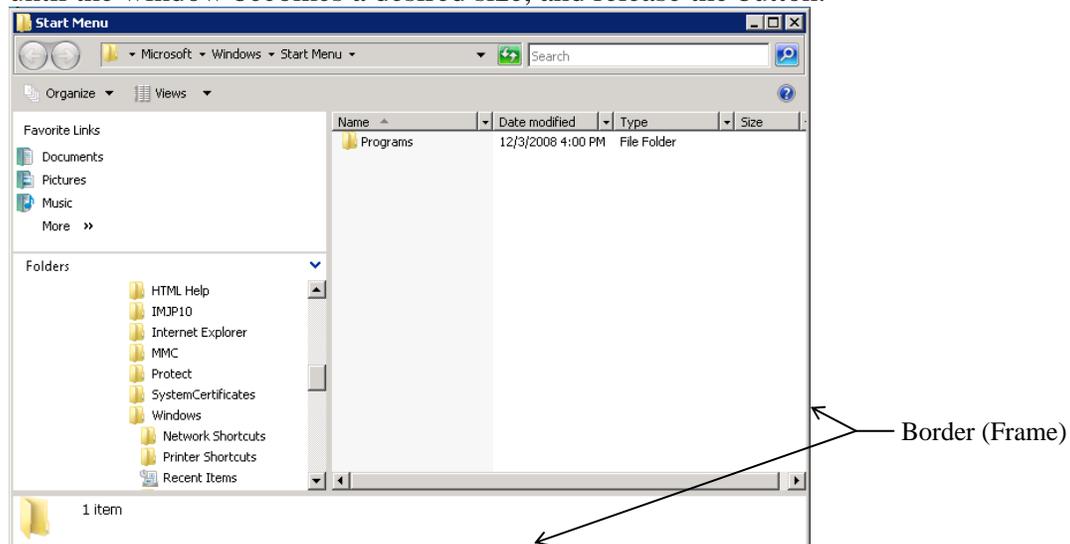
Move the pointer to the title bar with the trackball.

While pressing the button, move the window with the trackball or touchpad (DR) to a desired position and release the button.



(4) Changing the window size

Move the pointer to the window border (frame) (the pointer changes to the double-headed arrow). While pressing the button, move the border (the border changes to the broken line) until the window becomes a desired size, and release the button.



(5) Switching the screen (when two or more screens are opened)

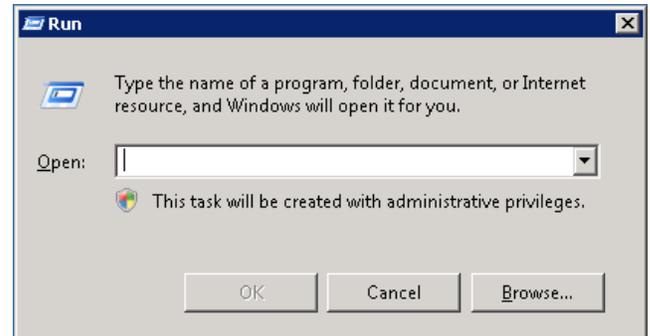
While pressing the [ALT] key , press [TAB] key (or [ESC] key) until your desired window title is displayed, and release the [ALT] key.

1.2 Running the SVP by Specifying a File Name

- (1) <Select [Run]>
Select (CL) [Run...] from the [Start] menu.



- (2) <Entering a file name>
Enter a file name in the “Open:” box and select (CL) the [OK] button.



1.3 Executing SVP Connect Utility

Execute SVP Connect Utility through a Console PC. Execute the following procedure through the Console PC.

About installation / removal of the console PC, the connection procedure.

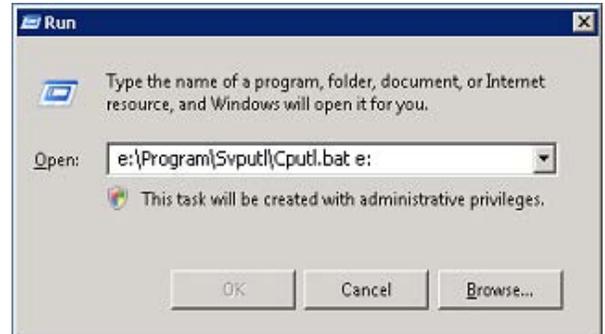
- 3.1.5.2 Storage and Installation Location of CE Laptop PC Tray [INST03-01-110]
- 3.1.5.3 Attachment/Removal Procedure of CE Laptop PC [INST03-01-120]

(1) Installing SVP Connect Utility

Insert the Host PP medium to the CD-R drive in the Console PC, and select (CL) [Run...] from the [Start] menu.

Enter “e:\Program\Svputl\Cputl.bat e:” in the “Open” box. Select (CL) the [OK] button.

Note: In the step above, the CD-R drive in the Console PC is assigned a drive letter E. If the CD-R drive is assigned a drive letter D, enter “d:\Program\Svputl\Cputl.bat d:”.



(2) Executing SVP Connect Utility

Double-click “RDPEXE.exe” in the desktop to execute the SVP Connect Utility.

Notice: The following alert might be displayed by environment of the OS.

When it was displayed, please select (CL) [Unblock].



1.4 Connecting the PC to the SVP

Connect the PC for connection to the SVP using SVP Connect Utility.

When connect the same SVP again, carry out “1.4.2 Restoring the previous connection”.

1.4.1 Connection to the SVP

Using two user type to connect with the SVP. If you don't know the password, please contact with the technical support division. When there is no description, using “Installed User”.

After you input a user name and the password, input “Maintenance Password”. If you don't know the “Maintenance Password”, please contact with the technical support division.

(1) Searching the SVP

Select (CL) [Search] in the ‘SVP Connect Utility’ window.

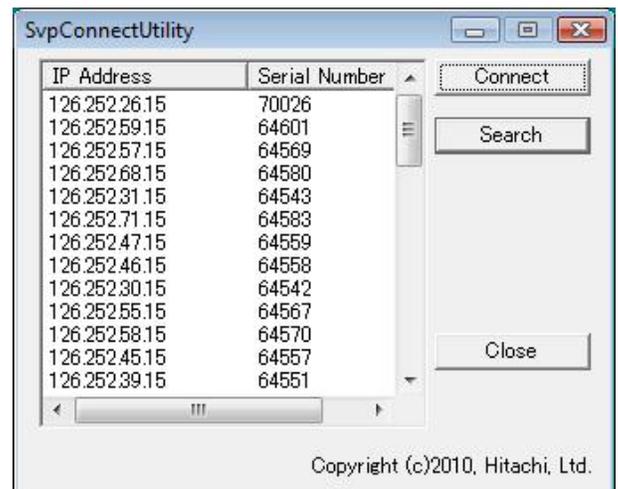
When an IP addresses and product serial numbers of the connectable SVPs are displayed in the list, go to (2)-(a).

When be not displayed, go to (2)-(b).

(2) Performing the connection

(a) Choose it among a list

Select an SVP to be connected from the SVPs in the list and select (CL) [Connect]. A connection to the selected SVP is done.



(b) Input an IP address

Select (CL) [Connect] in a state in which the SVP is not selected from the ‘SvpConnectUtility’ window list. Input an IP address of SVP connected to the input box of displayed ‘Input IP Address’ dialogue, and perform choice (CL) of [Connect]. A connection to the SVP of input IP address is done.



Note: Please check that automatic connection of a local disk drive is set up in the case of connection (At the time of SvpConnectUtility use, it is set up automatically).

(3) Login to SVP

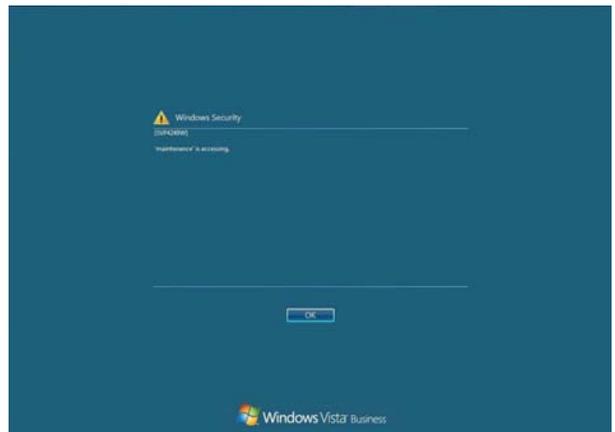
Select (CL) a SVP icon displayed by the login screen center to SVP.

A user name, a password input screen are displayed. Please input a user name and a password.

When other users are logging in, it is displayed with “Other users logon”.



Note: When you fail in login during other user login more, please retry the operation after the log in user logoffs.



(4) Input Maintenance password

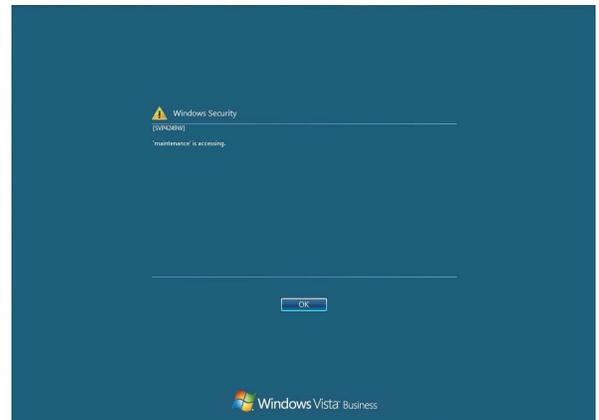
A Maintenance password input screen is displayed. Please input a Maintenance password.

When other users are logging in, it is displayed with “Other users logon”.

Refer to “1.14 Update Maintenance Password” for the change in the maintenance password.



Note: When you fail in login during other user login more, please retry the operation after the log in user logoffs.



(5) The start of the SVP screen

- (a) When ‘Web Console’ screen is not running.
Select (CL) the [Start SVP] button from ‘Wait for Storage Navigator Start’.

Go to “1.4.3 Checking the connected subsystems”.



- (b) When ‘Web Console’ screen is running.
Select (CL) [Maintenance]-[Maintenance Components (General)] from the menu.
The ‘SVP’ screen starts.

Go to “1.4.3 Checking the connected subsystems”.



1.4.2 Restoring the previous connection

After the certain SVP is disconnected, connect the same SVP again.

Using two user type to connect with the SVP. If you don't know the password, please contact with the technical support division. When there is no description, using "Installed User".

After you input a user name and the password, input "Maintenance Password". If you don't know the "Maintenance Password", please contact with the technical support division.

(1) Displaying the dialog box for entering an IP address

Select (CL) [Connect] in a state in which the SVP is not selected from the list. The "Input IP Address" dialog box is displayed.

(2) Restoring the previous connection

Select (CL) the pull down button of the entry box. Select the top one of the displayed IP addresses.

Select (CL) the [Connect] button.



Note: When you reconnect it after a SVP reboot, please leave time more than five minutes.

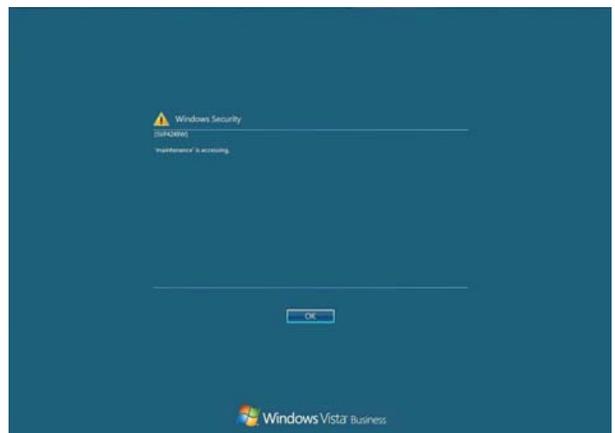
(3) Login to SVP

Select (CL) a SVP icon displayed by the login screen center to SVP.

A user name, a password input screen are displayed. Please input a user name and a password.



Note: When you fail in login during other user login more, please retry the operation after the log in user logoffs.

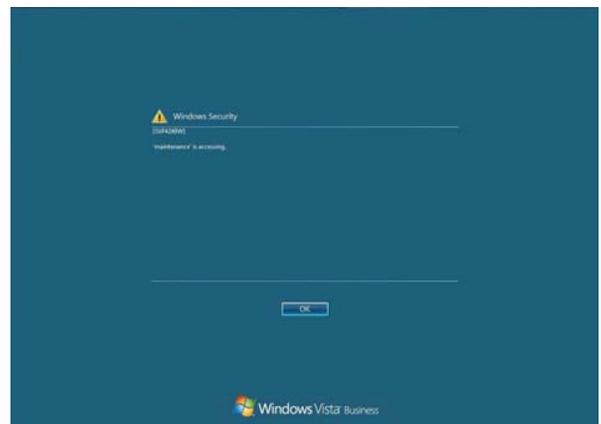


(4) Input Maintenance password

A Maintenance password input screen is displayed. Please input a Maintenance password.



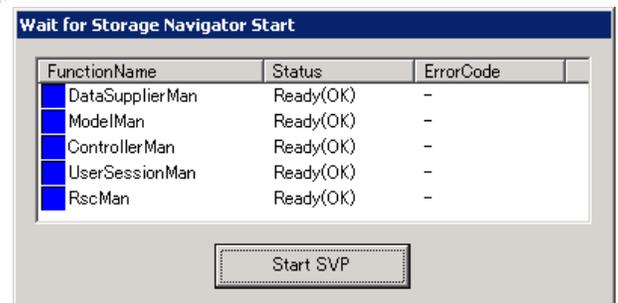
Note: When you fail in login during other user login more, please retry the operation after the log in user logoffs.



(5) The start of the SVP screen

- (a) When 'Web Console' screen is not running.
Select (CL) the [Start SVP] button from 'Wait for Storage Navigator Start'. A SVP screen starts.

Go to "1.4.3 Checking the connected subsystems".



- (b) When 'Web Console' screen is running.
Select (CL) [Maintenance] – [Maintenance Components (General)] from the menu. A SVP screen starts.

Go to "1.4.3 Checking the connected subsystems".



1.4.3 Checking the connected subsystems

After the SVP screen starts, the serial number of subsystem is displayed on the left of the mode button in the SVP screen. Please check whether the connected subsystem is correct.



Note: If it connects with a wrong subsystem, maintenance operation is performed, a serious obstacle may occur.

1.5 Disconnecting the SVP

Disconnect the Console PC from the SVP.

Note: Before disconnecting the SVP, close all the windows after all the functions performed from the SVP are completed, change the SVP mode to [View Mode], and then perform “Log off the SVP”.

*: If “Log off the SVP” is performed while an operation is performed from the SVP, the operation could end abnormally.

Only when the SVP is to be connected again immediately after it is disconnected, such as when switching SVPs of multiple DKCs, perform “Disconnect the SVP”.

*: If you perform “Disconnect the SVP” and connect the same SVP again, you can resume the SVP operation that was in progress before the disconnection.
See “1.4.2 Restoring the previous connection” ([SVP01-90](#)).

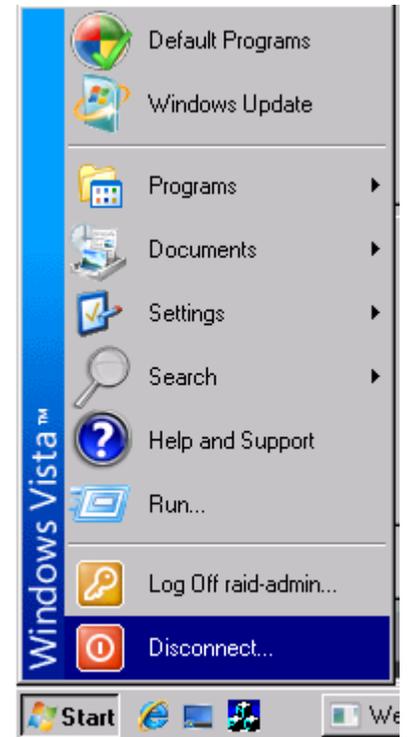
(a) Log off the SVP

Select (CL) [Log Off] from the [Start] menu. The SVP window in the Console PC is closed.



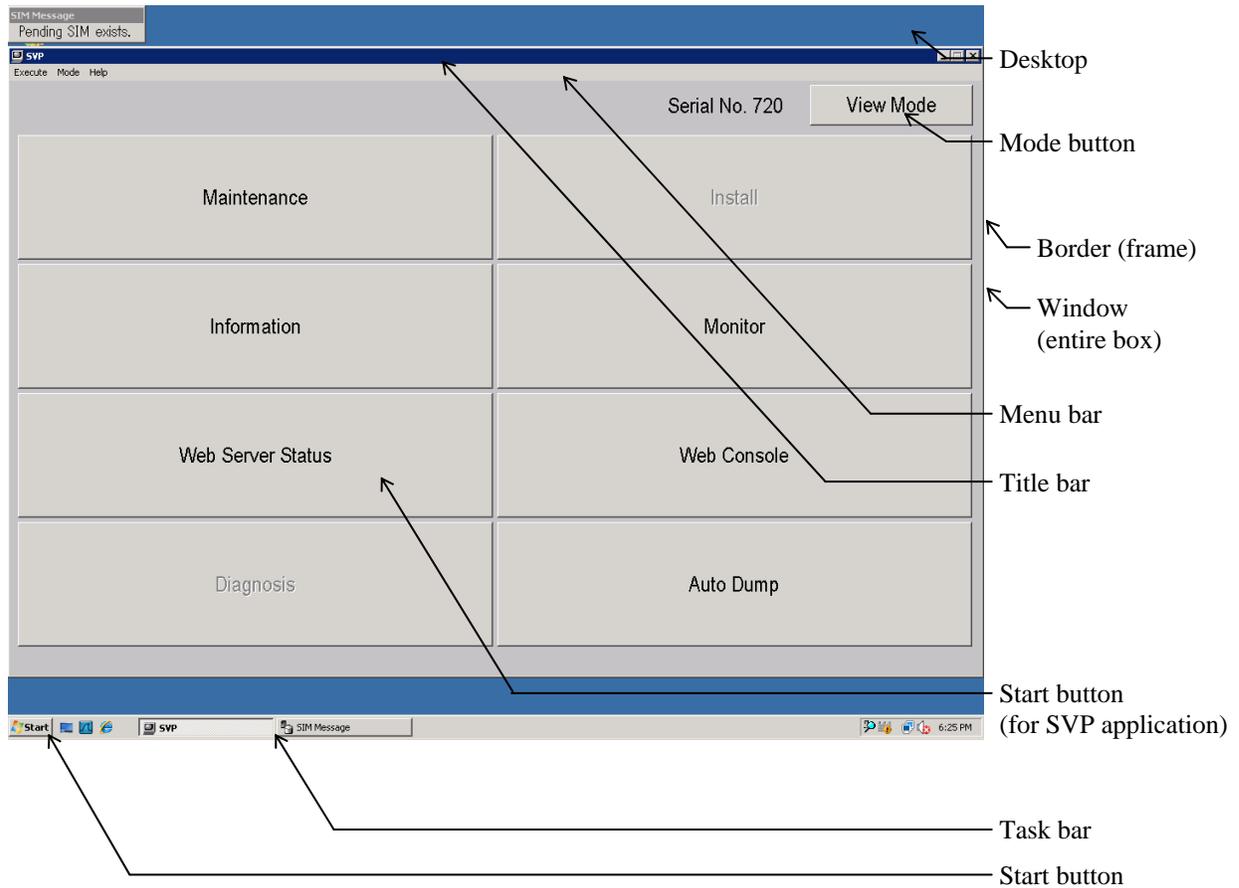
(b) Disconnect the SVP

Select (CL) [Disconnect] from the [Start] menu. The SVP window in the Console PC is closed.



1.6 Windows Screen Component Nomenclature

Either of the following windows is displayed.



Note: Each SVP screen on this maintenance manual is a sample, and it may not be the same as the actual screen.

1.7 Power On

Usually, SVP starts automatically at the breakers-ON.

If some problems occurred (and you must start SVP), follow the procedures below (to start SVP).

(1) Power On SVP

- a. Press the Power Switch on the front side of the SVP main body.
- b. Make sure that the SVP POWER LED on the front side of the SVP main body comes on.
If not, re-execute Step a in (1).
If the LED does not come on though the Step a in (1) is re-executed twice, replace the SVP.

(2) Windows Start (SVP Start)

- a. Wait for a few minutes until the Windows system starts up.
- b. Select (CL) [Search] of the SVP Connect Utility through the Console PC. Make sure that the SVP concerned is displayed in the list. If it is not displayed, re-execute Step a in (1).
If the Windows system does not start up though the Step a in (1) is re-executed twice, replace the SVP.

Notice: If Windows doesn't start, check the following items.

- (1) Is the DKC "CE mode" ?
- (2) Are the two LEDs at the LAN cable socket always on?

If above two conditions are satisfied, pull out the LAN cable until Windows starts.

1.8 Power Off

Note:

Performing this operation disables connecting to Storage Navigator. Make sure to confirm with a system administrator of your system before turning OFF the power.

(1) Power Off SVP

- a. Press SVP PS OFF Switch. (See [LOC03-140](#).)

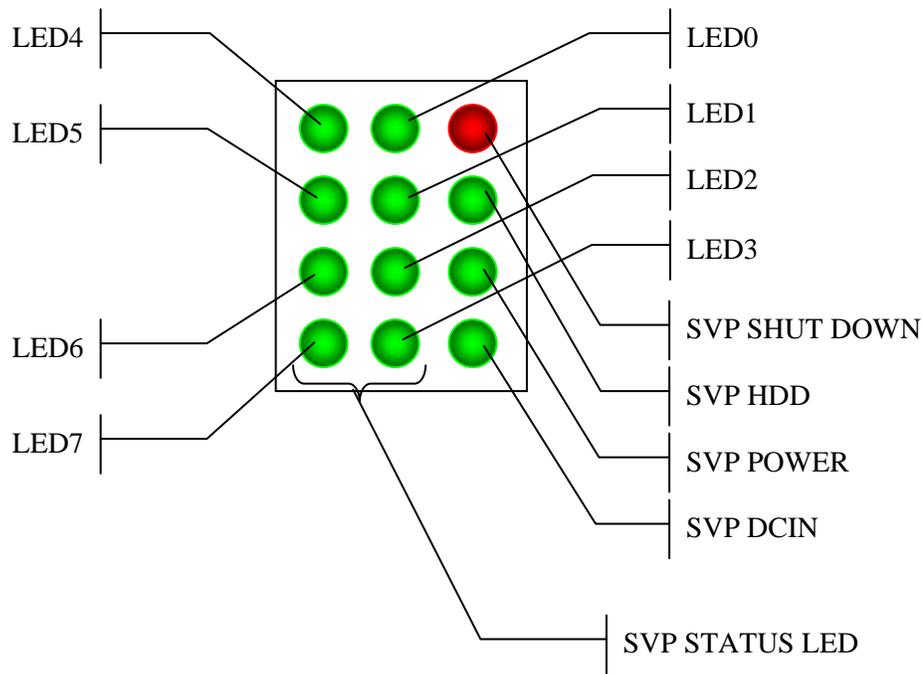
Make sure that the SVP POWER LED off the front side of the SVP main body comes on.

1.9 SVP reboot

- (1) Insert a jumper to JP1 (Refer to [LOC06-20](#)) if a maintenance jumper is not inserted.
- (2) Turn the power OFF in accordance with the procedure of SVP SECTION “1.8 Power OFF” ([SVP01-160](#)).
- (3) Turn the power ON in accordance with the procedure of SVP SECTION “1.7 Power ON” ([SVP01-150](#)).
- (4) Remove the jumper inserted in Step (1).

1.10 SVP LED display specification

(1) LED arrangement



[LED Color] SVP SHUT DOWN LED: Red
Others: Green

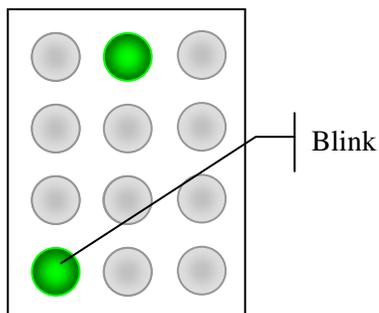
(2) The meaning of LED

LED0 : Lighting at the time of Master SVP

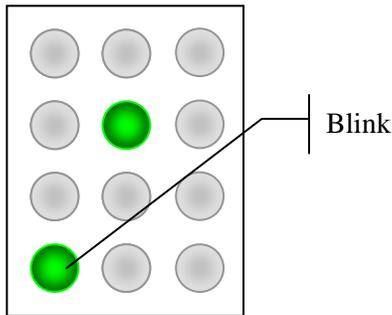
LED1 : Lighting at the time of Standby SVP

LED7 : It blinks at intervals of 1 second at the time of SVP action.

(3) Lighting at the time of Master SVP



(4) The LED Diode state at the time of Standby SVP



(5) The action at the time of JP3 insertion

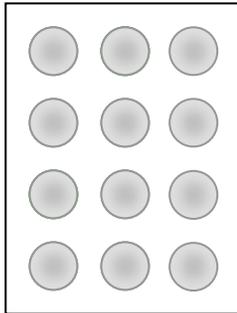
Insertion of JP3 switches on LED by the following sequences.

- ① All LED putting out lights (for 1 second)
- ② All LED lighting (for 1 second)
- ③ All LED putting out lights (for 1 second)
- ④ All LED lighting (for 1 second)
- ⑤ The first octet display of an IP address (for 3 seconds)
- ⑥ The second octet display of an IP address (for 3 seconds)
- ⑦ The third octet display of an IP address (for 3 seconds)
- ⑧ The fourth octet display of an IP address (for 3 seconds)
- ⑨ All LED putting out lights (for 10 second)
- ⑩ JP3 insertion check. If still inserted, the sequence continuation. If it has not inserted, sequence is end.
- ⑪ Initialize Password
- ⑫ Initialize IP Address
- ⑬ All LED blinks (at interval of 1 second for 10 times, and 20 seconds)
- ⑭ SVP Reboot

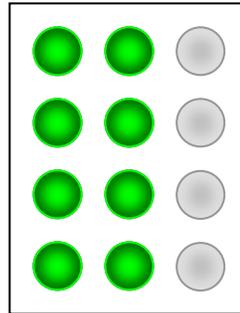
(6) IP address display

The data for 1Byte is displayed using eight LED.

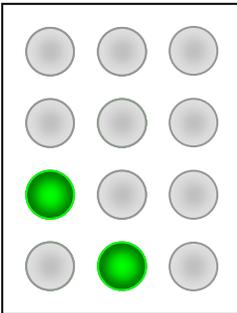
When it is 0x00



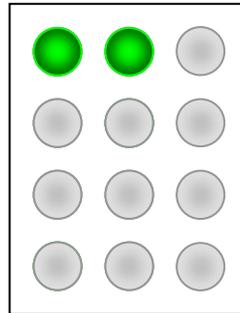
When it is 0xFF



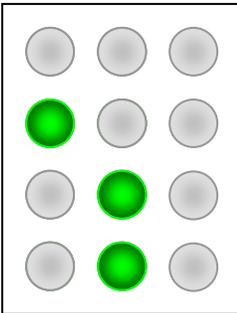
When it is 0x12



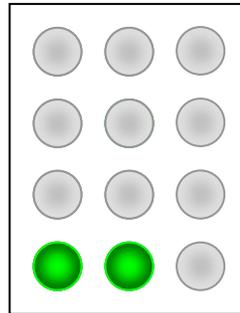
When it is 0x88



When it is 0x34



When it is 0x11

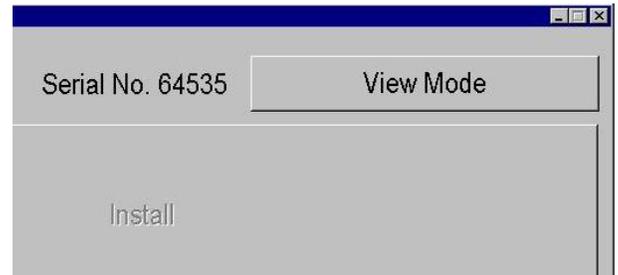


1.11 Mode

(1) <View Mode>

In view mode, only referring the subsystem status is allowed.

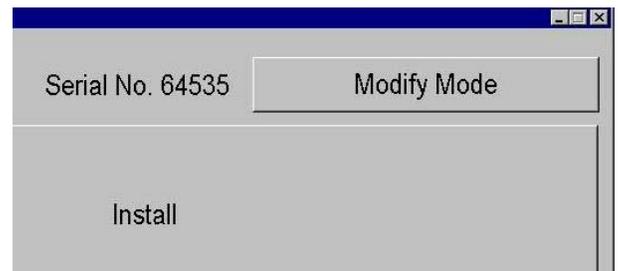
Note: In view mode, pending SIMs (if exist) are reported to host.



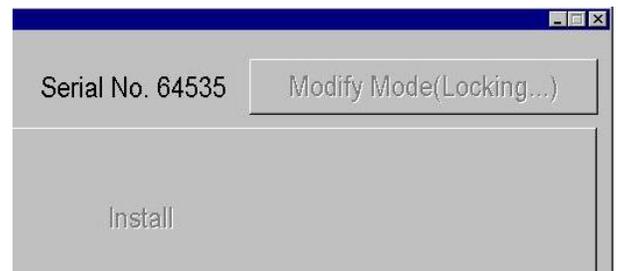
(2) <Modify Mode>

In modify mode, referring and changing the subsystem status are allowed.

For example, log/pin data indication and status display on MAINTENANCE are available in any mode, but hardware replacement is available in only modify mode.



All the operations become impossible to execute until the lock processing to DKC ends when changing from View Mode into Modify Mode. (At this time, the display becomes Modify Mode(Locking...))



Moreover, all the operations become impossible to execute until the unlock processing to DKC ends when changing from Modify Mode into View Mode. (At this time, the display becomes Modify Mode(Unlocking...))



Note: When the communication between SVP-DKC has blockaded or an internal error occurs, the SVP mode becomes Modify Mode(Unlocked) by failing in the lock processing. Under such a condition, the maintenance operation that can be executed is limited. (Modes other than View and Modify are also similar)



Table 1.11-1 The maintenance operation that can be executed when SVP mode is “(Unlocked)”

#	Operation	Pages
1	The maintenance operation that can be executed when SVP is View Mode.	-
2	MP Install	MICRO05-10
3	Configuration Update	MICRO07-10
4	Create Configuration Backup	MICRO07-40
5	All Configuration Files	MICRO07-60
6	Restore Configuration	MICRO07-80
7	TOD (Time Of Day) setting	SVP02-10 INST05-40
8	Set IP address	SVP02-1850 INST05-50
9	Define Configuration and Install	INST05-80
10	Refer Configuration	INST05-510
11	Delete Log File	SVP02-220
12	SIM Complete	SVP02-650
13	Switch SVP	SVP02-1420
14	Diagnosis (LAN Check etc.)	DIAG00-00
15	SSVPMN Replace	REP03-17-10
16	SVP Replace	REP03-20-10

(3) <Change Mode>

If you push (CL) [View Mode] button, the mode changes from [View Mode] to [Modify Mode], and SVP changes to Modify Mode.

If you push (CL) [Modify Mode] button, the mode changes from [Modify Mode] to [View Mode], and SVP changes to View Mode.



SAFETY SUMMARY

Observe the following cautionary notices after using the SVP.

- Exit the window opened.
- Change the operation mode to “View.”

If the above operation is not performed, a failure may not be notified because the SVP is judged to be under maintenance.

1.12 How to reference the manual on CDR

1.12.1 Preface

The Maintenance Manual, which is provided being contained in a CDR, is written in the format of the HTML (Hyper Text Markup Language) file. To read the manual, it is required to install the special reader software beforehand.

1.12.2 How to reference the manual

To reference this manual.

- (1) Insert the CDR into the drive of your PC.
- (2) Use Explorer to locate the CDR drive.
- (3) Double-click a desired file.

The content of the selected file will be displayed on another window.

1.13 Handling of USB memory

1.13.1 How to remove USB memory

When you remove a USB flash memory, perform it as follows. Data may be damaged if you remove it suddenly.

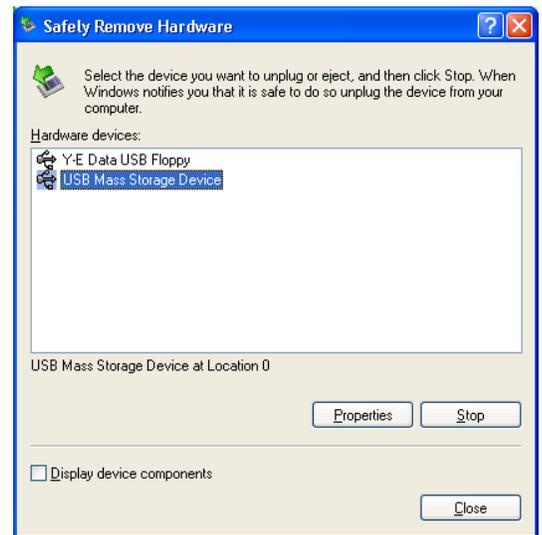
(1)

Double-click the icon of the round mark of the following figure in the lower right of the window.



(2)

A window as shown in the following figure is displayed. Select “USB Mass Storage Device” and press the [Stop] button.



(3)

A window as shown in the following figure is displayed. Select “USB Mass Storage Device” and press the [OK] button.



(4)

A window as shown in the following figure is displayed. Press the [Close] button. Removal became possible with this. Pull out the USB flash memory from the USB port.



1.14 Update Maintenance Password

Note:

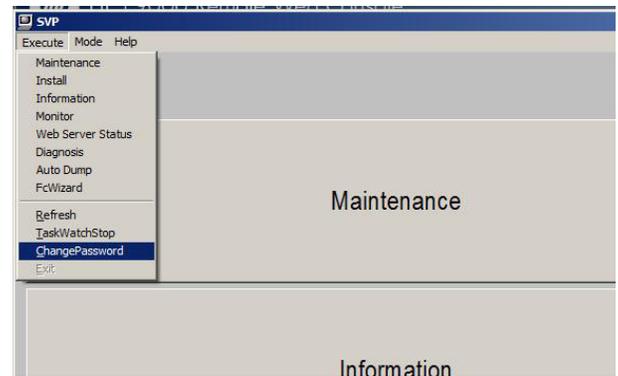
If the SVP High Reliability Kit is set, the password change setting is automatically reflected to the Standby SVP.

The availability of the setting takes approximately one hour after changing the SVP to View Mode. (Before the availability of the setting, if any other maintenance or configuration information changes are performed, the availability of the setting may take longer time.)

If the changed password cannot log into the Standby SVP, use the previous password to log in because the password change setting is not complete.

(1)

The mode is changed to Modify Mode, and [Execute]-[ChangePassword] is selected (CL).



(2)

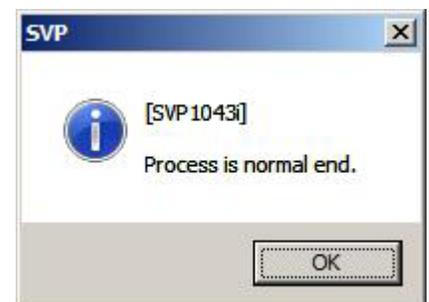
The window as shown in the following figure is displayed. Input “Current password”, “New password”, and “Confirm new password”, and select (CL) the [Change password] button.

The alphanumeric characters of 8 ~ 32 (ASCII character) and the signs (! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { | } ~) can be used for the password.



(3)

The message “Process is normal end.” is displayed when the change is completed, and select (CL) the [OK] button. Log in is possible in SVP from next time by the new maintenance password.



2. Function of the SVP

2.1 TOD (Time Of Day) setting

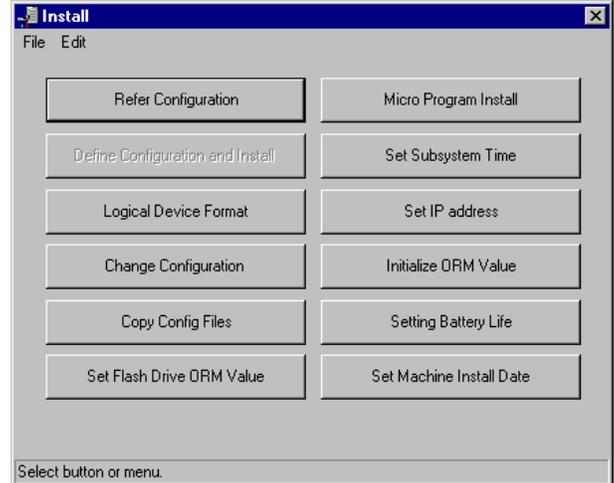
- Note:
- Please do not execute the TOD setting during the P/S ON procedure.
 - Please do not execute the TOD setting during collecting the Port Dump.
 - Please do not execute the TOD setting during the port error recovery operation using the restart switch function.
 - Please do not execute the TOD setting during the monitor switch of the Performance Monitor function is effective. If you change the monitor may not display or retrieve data for monitoring data incorrect monitor data stored improperly.

Note: In the case that there is PVOL of XRC in this DKC and the amount of Sidefiles reach to the threshold, XRC pair may be suspended.

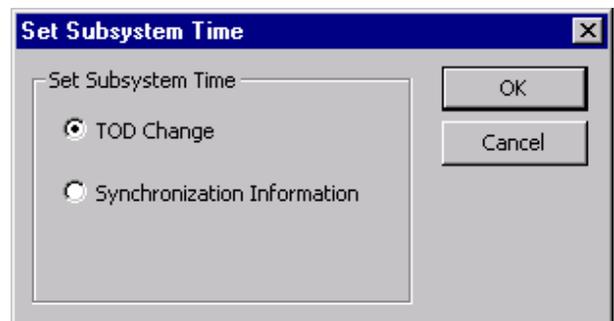
- (1)
Change the mode to [Modify Mode] from [View Mode] (CL).

- (2)
Select (CL) [Install].

- (3)
Select (CL) [Set Subsystem Time] in the 'Install' window.

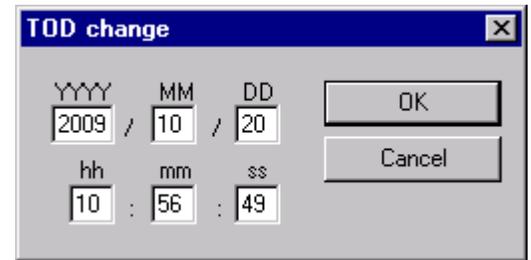


- (4)
Select (CL) [TOD Change] in the 'Set Subsystem Time' window, and then select (CL) [OK].



SVP02-20

- (5) Specify the date (year, month, and day) and time (hour, minute, and second) and select (CL) [OK].



- (6) Close the 'Install' window.

Note: If you execute the performance measurement by Performance Monitor, don't push back the TOD.

- (7) Reboot the SVP.
(See SVP SECTION "1.9 SVP reboot" ([SVP01-161](#)))

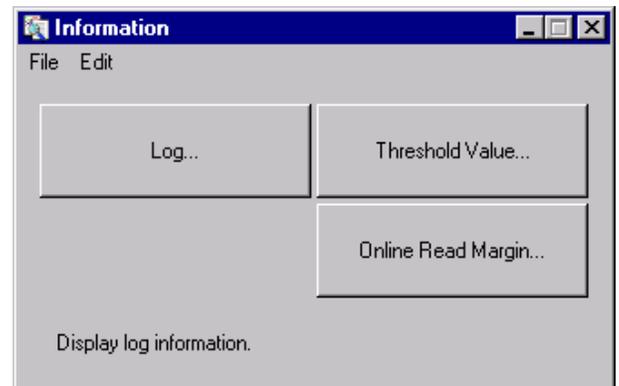
2.2 Log indication

[1] SSB Log -----	SVP02-40
[2] SIM Log -----	SVP02-60
[3] Detail Log -----	SVP02-90
[4] Reset Log -----	SVP02-110
[5] Power Event Log -----	SVP02-130
[6] Incident Log -----	SVP02-140
[7] HTP Log -----	SVP02-160
[8] Diagnosis Log -----	SVP02-180
[9] Copy History Log -----	SVP02-200
[10] MP# - Location correspondence table -----	SVP02-210
[11] Port# - Location correspondence table -----	SVP02-211

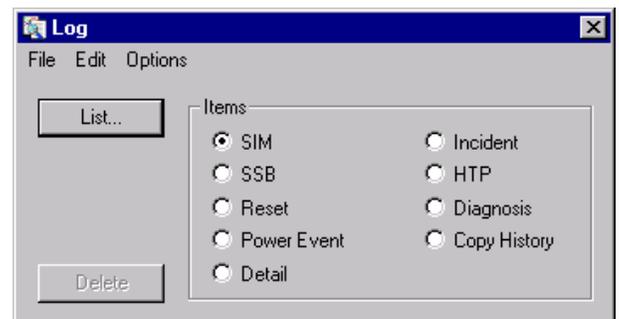
Prerequisite Operation:

- (1)
Select (CL) [Information].

- (2)
Select (CL) [Log...].



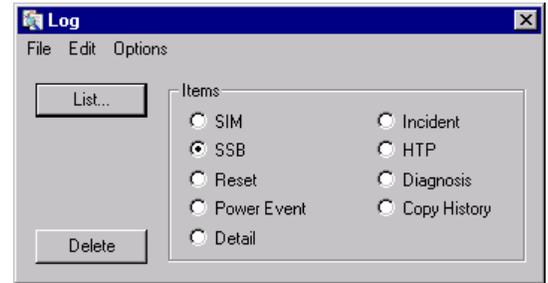
- (3)
'Log' dialog box is displayed.



[1] SSB Log

(1)

- Select (CL) [SSB] in the 'Log'.
- Select (CL) [List...].



(2)

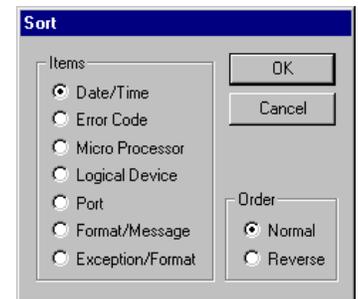
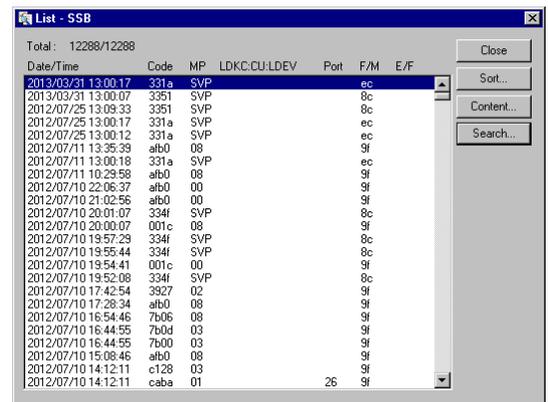
- Select (CL) data to be indicated in the 'List-SSB' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.

Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

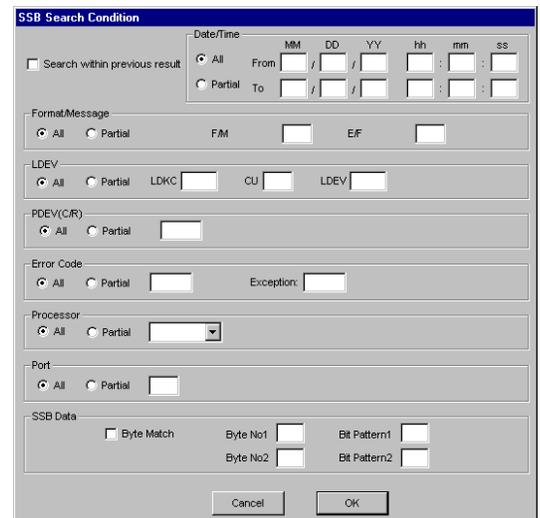
- Note: To search for the desired log, select (CL) [Search...]. Then set the log for which you want to search individual List in the 'SSB Search Condition' dialog box and select (CL) [OK].

Note: Please do not change an application's window until search function finish.



(2)-1 <SSB Search Condition dialog>

- Select (CL) [Partial] button of "Date/Time", "Format/Message", "LDEV", "PDEV(C/R)", "Error Code", "Processor" and "Port" to search, and enter a value. When you search "SSB Data", select (CL) [Byte Match] and enter a value.

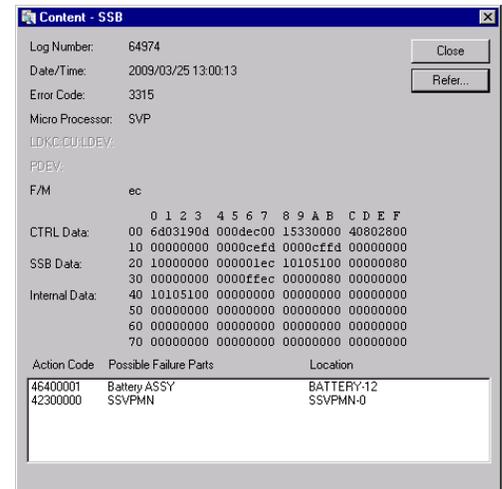


- (a) Common
Search within previous result
: To search in previously searched logs.
All : Condition for search in the same flame becomes invalid.
Partial : Condition for search in the same flame becomes effective.
- (b) Date/Time
From : Enter the oldest date and time of data to search.
To : Enter the latest date and time of data to search.
Note: When the [Partial] in the [Date/Time] group is selected (CL), enter “00” in [hh], [mm] and [ss] of [From], and enter the current time in those of [To].
- (c) Format/Message
F/M : Enter Format/Message of data to search.
E/F : Enter Exception/Format of data to search.
- (d) LDEV
LDKC : Enter LDKC# of data to search.
CU : Enter CU# of data to search.
LDEV : Enter LDEV# of data to search.
- (e) PDEV(C/R)
Enter PDEV# of data to search.
- (f) Error Code
Enter Error Code of data to search.
Exception : Enter Error Code of data to except from a search.
- (g) Processor
Select a location name of data to search from combo box.
Note: When the [Partial] in the [Processor] group is selected, the list of location names is displayed in a combo box.
- (h) Port
Enter Port# of data to search.
Note: Refer to a [11] Port# - Location correspondence table.
- (i) SSB Data
Byte Match : To enable a search of [SSB Data].
Byte No1 : Enter a position of the byte to search.
Bit Pattern1 : Enter a value to search in a position of the byte specified in [Byte No1].
Byte No2 : Enter a position of the byte to search.
Bit Pattern2 : Enter a value to search in a position of the byte specified in [Byte No2].

(3)

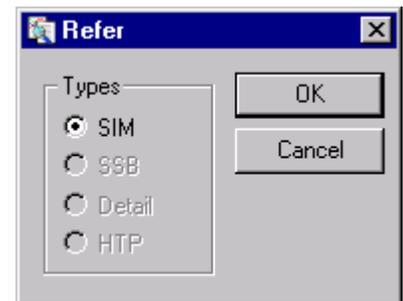
The detailed data is displayed in the 'Content-SSB' dialog box.

Select (CL) [Refer...] in the 'Content-SSB' dialog box to display the relative log.



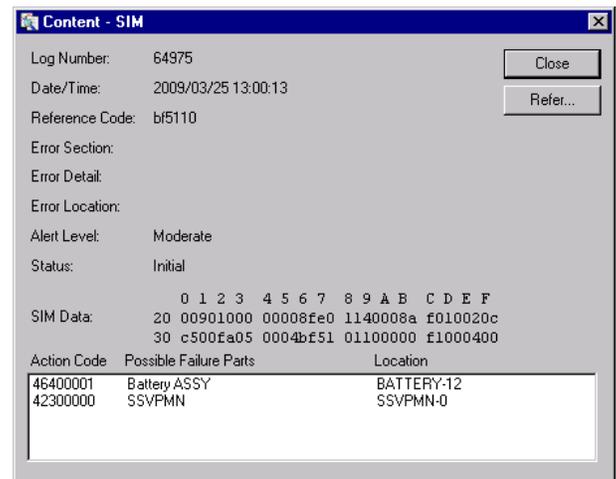
(4)

Select (CL) the log to be displayed in the 'Refer' dialog box. ([SIM] is selected in this example.)



(5)

Display the log to be selected.
('Content-SIM' is displayed in this example.)
See SIM LOG Section



(6)

Close the relative log when it is referred to.
Select (CL) [Close] in the 'Content-SSB' dialog box.
Select (CL) [Close] in the 'List-SSB' dialog box.
Close the 'Log' dialog box and close the 'Information' window.

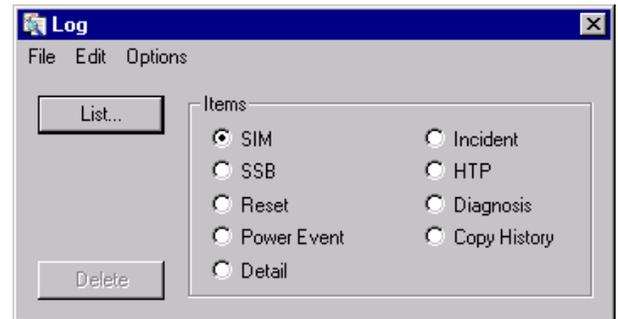
[2] SIM Log

Note1: When SIM log exists after SVP is started up, the 'SIM Message' window is displayed.

Note2: Uncomplete SIM logs are recorded up to 256. When the SIM log is made when the number of uncomplete SIM logs is the maximum, the oldest uncomplete SIM log is automatically done complete.

(1)

Select (CL) [SIM] in the 'Log' dialog box.
Select (CL) [List...].

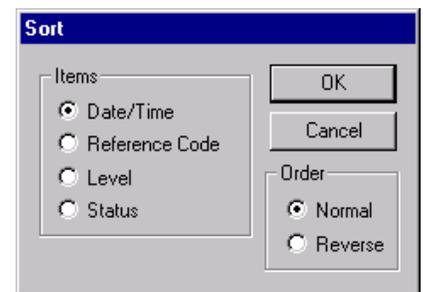
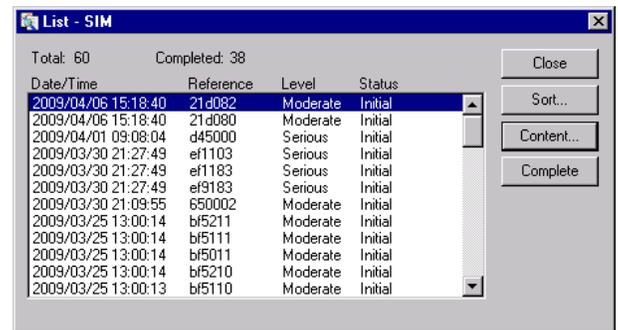


(2)

Select (CL) data to be indicated in the 'List-SIM' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.

Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

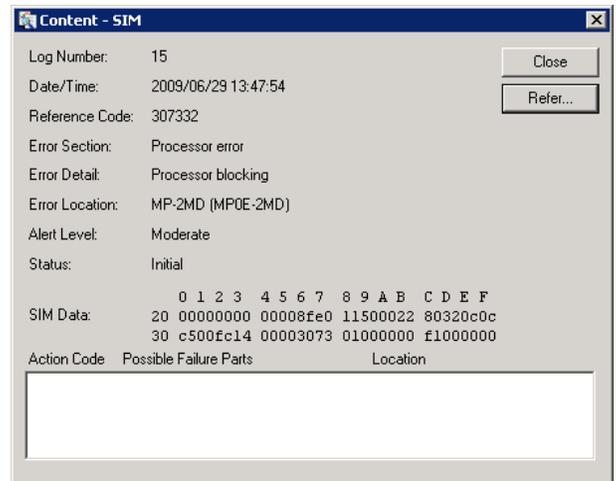


(3)

The 'Content-SIM' dialog box is displayed.
Select (CL) [Refer...] in the 'Content-SIM' dialog box, when the relative log is displayed.

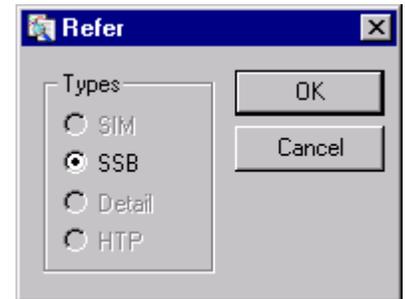
Note: In WCHK1 dump and ABEND dump received SIM (RC = 3080X0, 3081X0), the system error code is indicated in the format [YYYY] as in Reference Code 3080X0[YYYY].

Note: If Reference Code is 73XXYY or 1400X0, perform the recovery procedure for DKC processor failure / SVP failure. (See [TRBL05-40](#).)



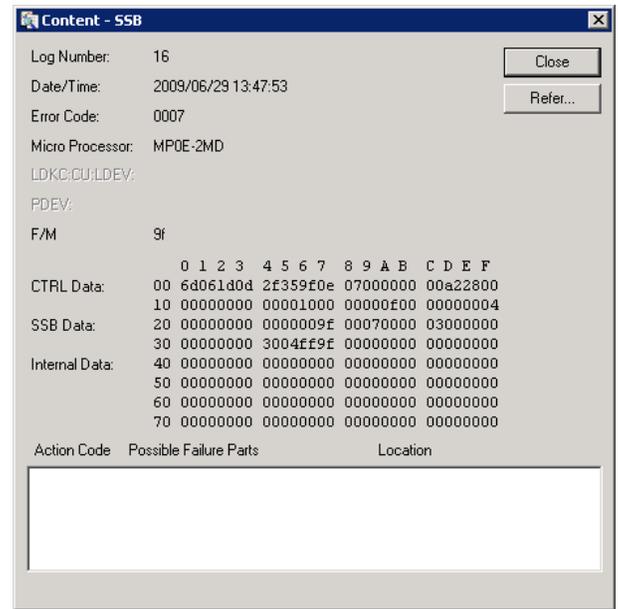
(4)

Select (CL) the log to be displayed in the 'Refer' dialog box.
([SSB] is selected in this example.)



(5)

The selected log is displayed.
 ('Content-SSB' is displayed in this example.)



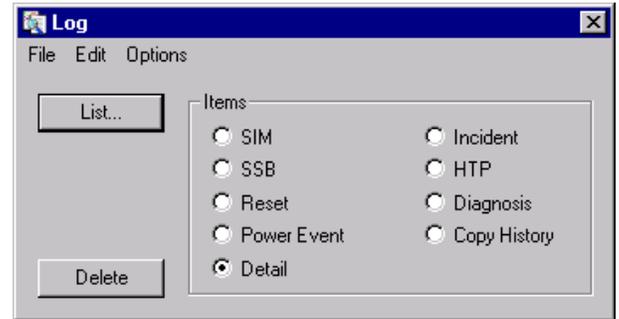
(6)

Close the relative log when it is referred to.
 Select (CL) [Close] in the 'Content-SIM' dialog box.
 Select (CL) [Close] in the 'List-SIM' dialog box.
 Close the 'Log' dialog box and close the 'Information' window.

[3] Detail Log

(1)

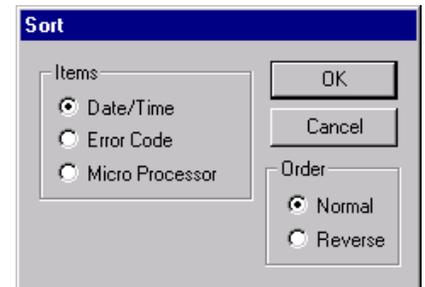
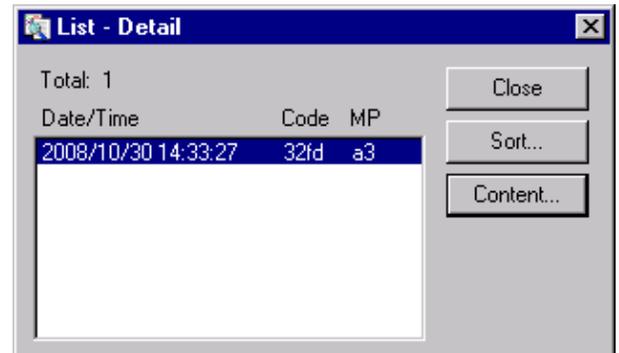
Select (CL) [Detail] in the 'Log' dialog box.
Select (CL) [List...].



(2)

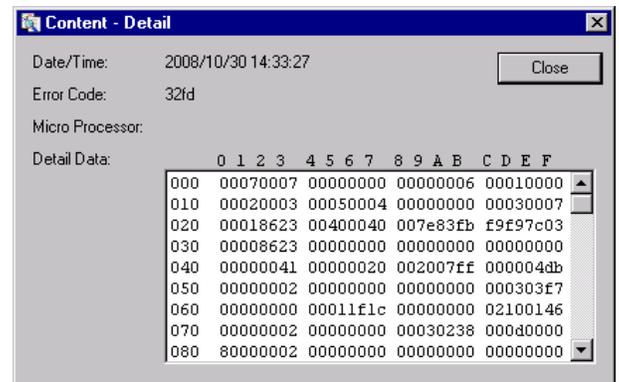
Select (CL) data to be indicated in the 'List-
Detail' dialog box and select (CL)
[Content...].

Note: To sort and list items, select (CL)
[Sort...] first.
Then select (CL) the desired item in
the [Items] and [Order] options in the
'Sort' dialog box, and select (CL)
[OK].



(3)

The 'Content-Detail' dialog box is displayed.



(4)

Select (CL) [Close] in the 'Content-Detail' dialog box.

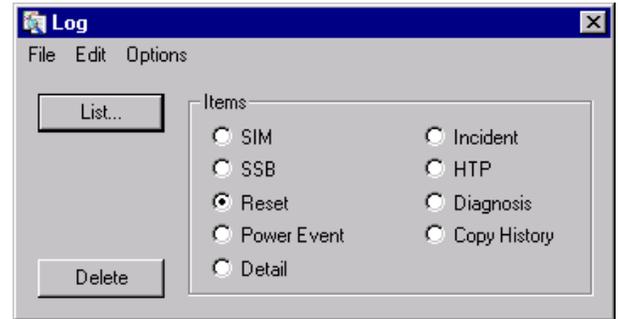
Select (CL) [Close] in the 'List-Detail' dialog box.

Close the 'Log' dialog box and close the 'Information' window.

[4] Reset Log

(1)

Select (CL) [Reset] in the 'Log' dialog box.
Select (CL) [List...].

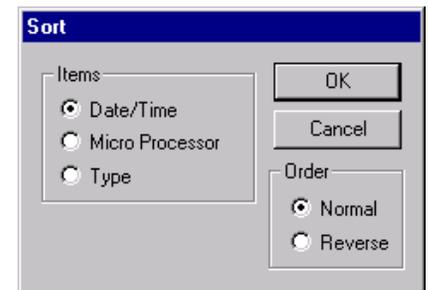
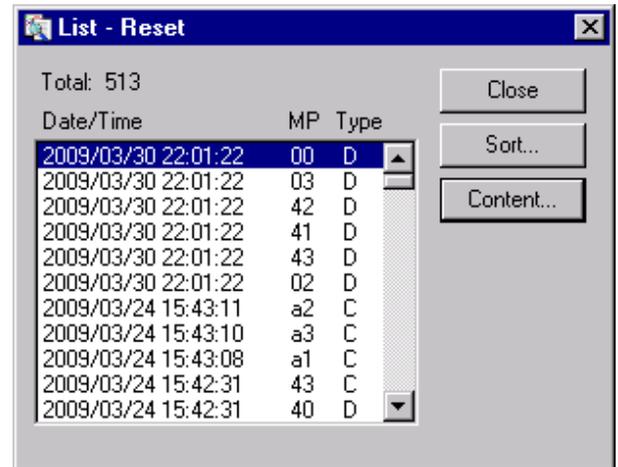


(2)

Select (CL) data to be indicated in the 'List-Reset' dialog box and select (CL) [Content...].

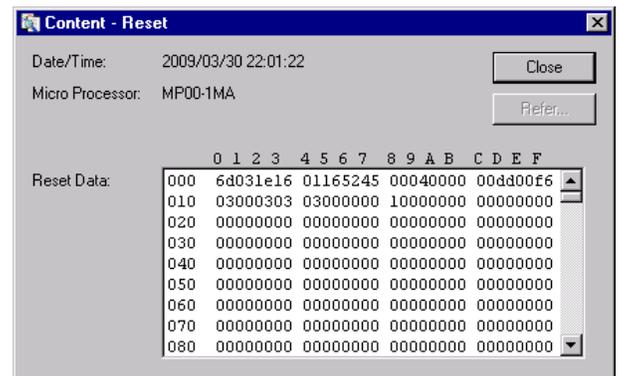
Note: To sort and list items, select (CL) [Sort...] first.

Then select (CL) the desired item in the [Items] and [Order] options in the 'Reset Log Sort' dialog box, and select (CL) [OK].



(3)

The 'Content-Reset' dialog box is displayed.



(4)

Select (CL) [Close] in the 'Content-Reset' dialog box.

Select (CL) [Close] in the 'List-Reset' dialog box.

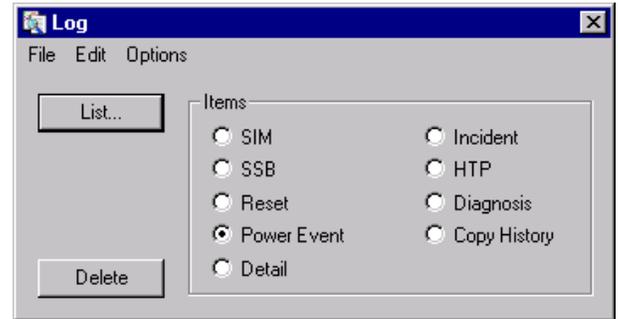
Close the 'Log' dialog box and close the 'Information' window.

[5] Power Event Log

(1)

Select (CL) [Power Event] in the 'Log' dialog box.

Select (CL) [List...].

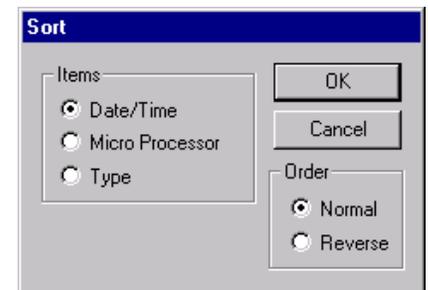
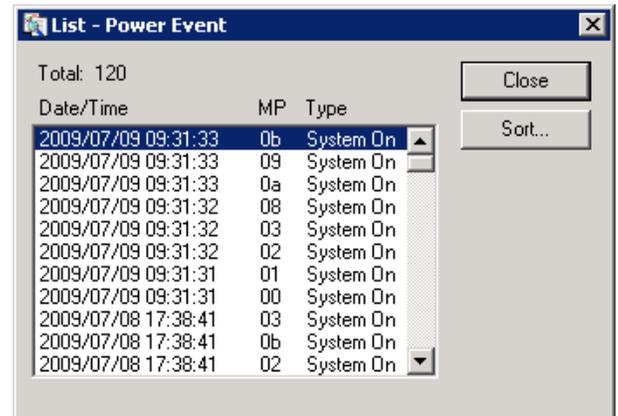


(2)

The 'List-Power Event' dialog box is displayed.

Note: To sort and list items, select (CL) [Sort...] first.

Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].



(3)

Select (CL) [Close] in the 'List-Power Event' dialog box.

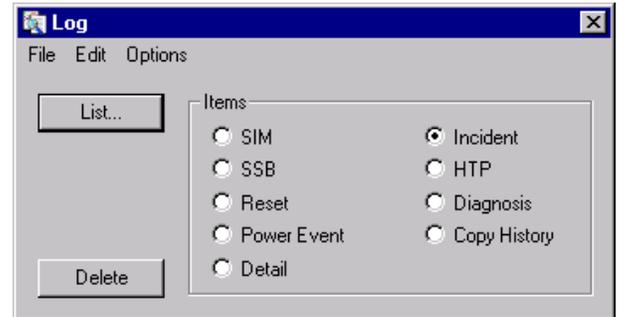
Close the 'Log' dialog box and close the 'Information' window.

[6] Incident Log

(1)

Select (CL) [Incident] in the 'Log' dialog box.

Select (CL) [List...].

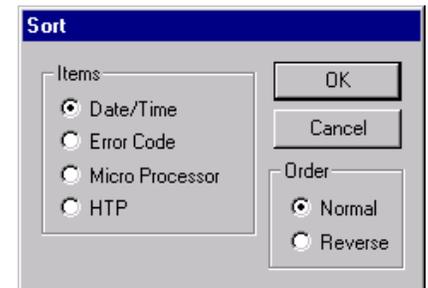
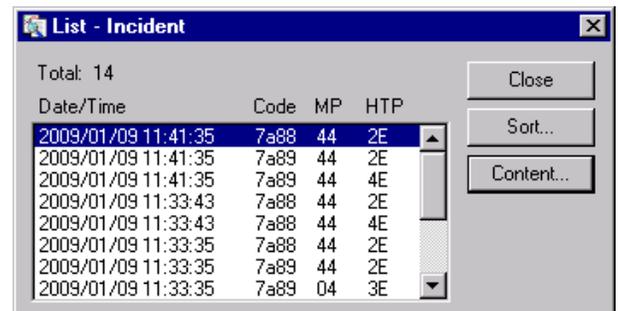


(2)

Select (CL) data to be indicated in the 'List-Incident' dialog box and select (CL) [Content...].

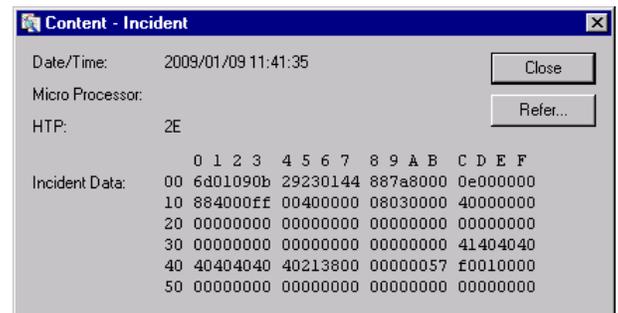
Note: To sort and list items, select (CL) [Sort...] first.

Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].



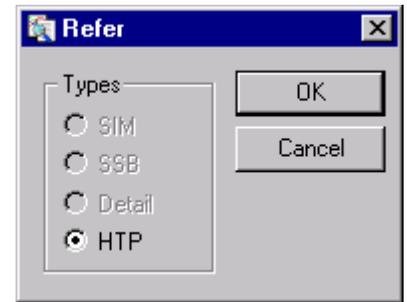
(3)

The 'Content-Incident' dialog box is displayed.



(4)

To display the relative log, select (CL) [Refer...] in the 'Content-Incident' dialog box.
Select (CL) the log type to be displayed in the 'Refer' dialog box and then select (CL) [OK].



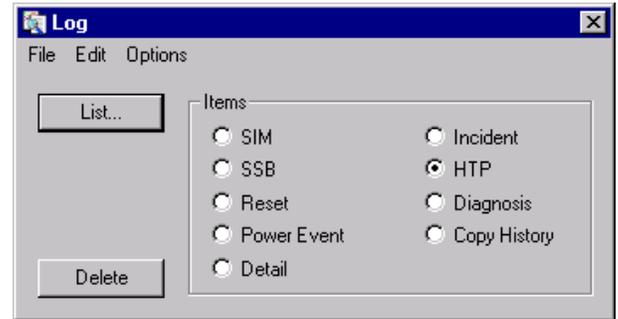
(5)

Select (CL) [Close] in the 'Content-Incident' dialog box.
Select (CL) [Close] in the 'List-Incident' dialog box.
Close the 'Log' dialog box and close the 'Information' window.

[7] HTP Log

(1)

Select (CL) [HTP] in the 'Log' dialog box.
Select (CL) [List...].



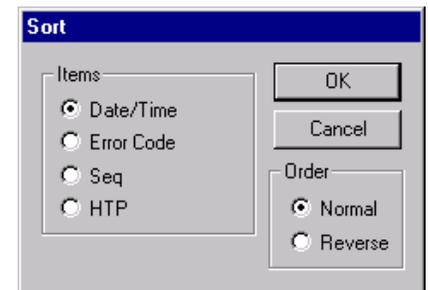
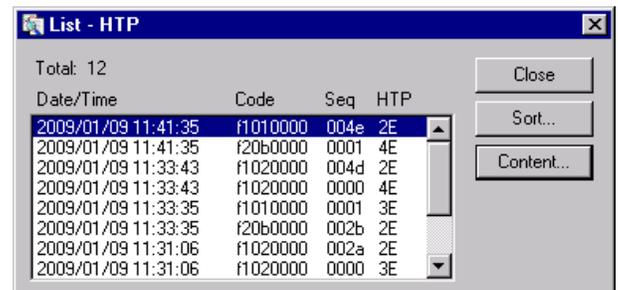
(2)

Select (CL) data to be indicated in the 'List-HTP' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.

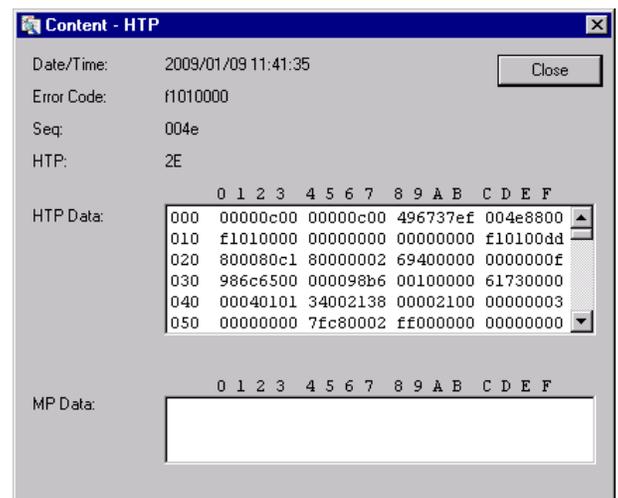
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

Note: Refer to [LOC04-10](#) for HTP port location.



(3)

The 'Content-HTP' dialog box is displayed.



(4)

Select (CL) [Close] in the 'Content-HTP' dialog box.

Select (CL) [Close] in the 'List-HTP' dialog box.

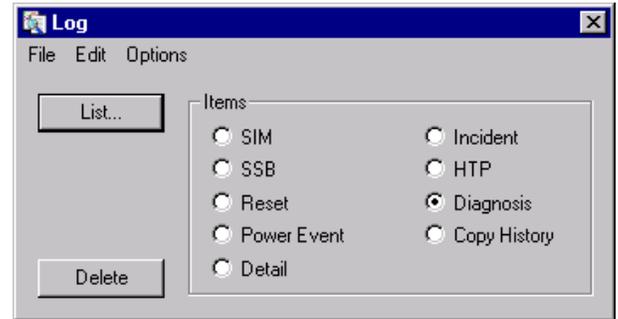
Close the 'Log' dialog box and close the 'Information' window.

[8] Diagnosis Log

(1)

Select (CL) [Diagnosis] in the 'Log' dialog box.

Select (CL) [List...].

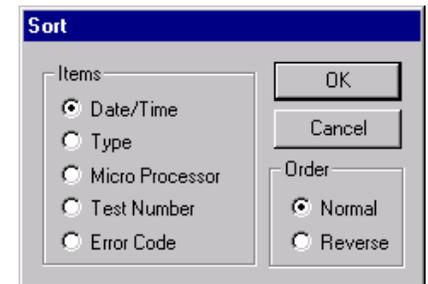
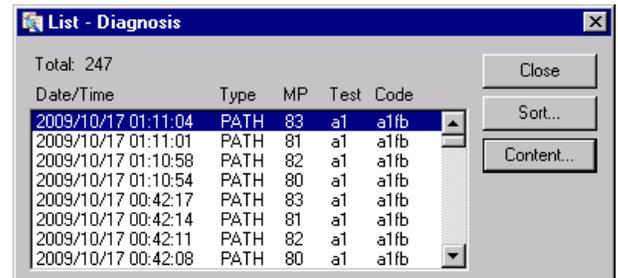


(2)

Select (CL) data to be indicated in the 'List-Diagnosis' dialog box and select (CL) [Content...].

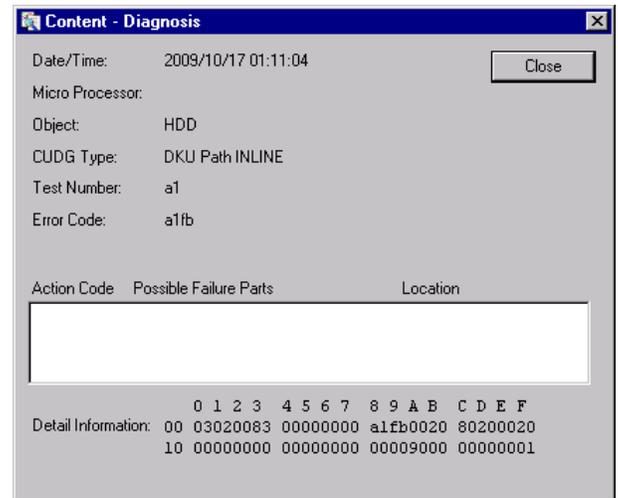
Note: To sort and list items, select (CL) [Sort...] first.

Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].



(3)

The 'Content-Diagnosis' dialog box is displayed.



(4)

Select (CL) [Close] in the 'Content-Diagnosis' dialog box.

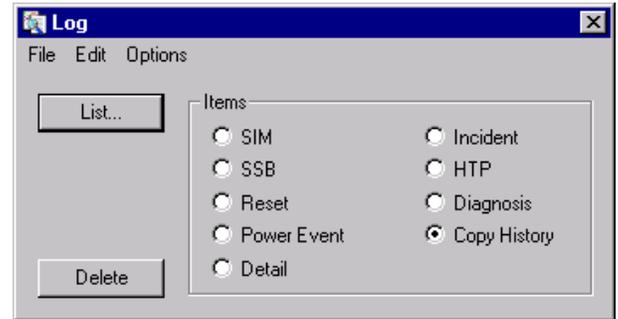
Select (CL) [Close] in the 'List-Diagnosis' dialog box.

Close the 'Log' dialog box and close the 'Information' window.

[9] Copy History Log

(1)

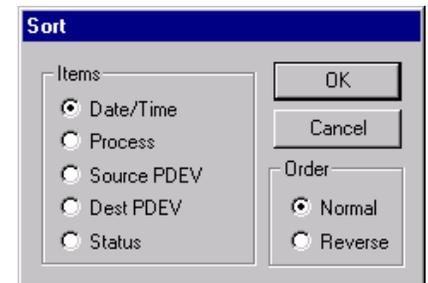
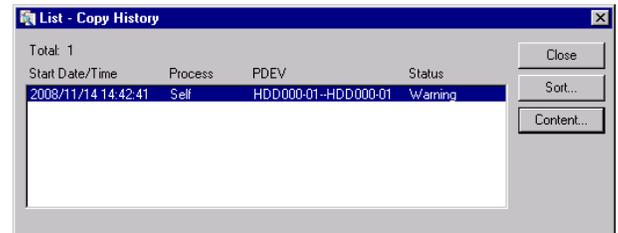
Select (CL) [Copy History] in the 'Log' dialog box.
Select (CL) [List...].



(2)

Select (CL) data to be indicated in the 'List-Copy History' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].



(3)

The 'Content-Copy History' dialog box is displayed.



(4)

Select (CL) [Close] in the 'Content-Copy History' dialog box.
Select (CL) [Close] in the 'List-Copy History' dialog box.
Close the 'Log' dialog box and close the 'Information' window.

[10] MP# - Location correspondence table

Location			MP#	Location			MP#		
MP	Cluster1	MPB-1MA	MP00-1MA	00	MP	Cluster2	MPB-2MC	MP08-2MC	08
			MP01-1MA	01				MP09-2MC	09
			MP02-1MA	02				MP0A-2MC	0A
			MP03-1MA	03				MP0B-2MC	0B
		MPB-1MB	MP04-1MB	04			MPB-2MD	MP0C-2MD	0C
			MP05-1MB	05				MP0D-2MD	0D
			MP06-1MB	06				MP0E-2MD	0E
			MP07-1MB	07				MP0F-2MD	0F
		MPB-1ME	MP10-1ME	10			MPB-2MG	MP18-2MG	18
			MP11-1ME	11				MP19-2MG	19
			MP12-1ME	12				MP1A-2MG	1A
			MP13-1ME	13				MP1B-2MG	1B
		MPB-1MF	MP14-1MF	14			MPB-2MH	MP1C-2MH	1C
			MP15-1MF	15				MP1D-2MH	1D
			MP16-1MF	16				MP1E-2MH	1E
			MP17-1MF	17				MP1F-2MH	1F

[11] Port# - Location correspondence table

Module#0

Location		Port#	Location		Port#		
Cluster1	CHA-1EU	1A	00	Cluster2	CHA-2QU	2A	20
		3A	01			4A	21
		5A	02			6A	22
		7A	03			8A	23
		1B	04			2B	24
		3B	05			4B	25
		5B	06			6B	26
		7B	07			8B	27
	CHA-1EL	1C	08		CHA-2QL	2C	28
		3C	09			4C	29
		5C	0A			6C	2A
		7C	0B			8C	2B
		1D	0C			2D	2C
		3D	0D			4D	2D
		5D	0E			6D	2E
		7D	0F			8D	2F
	CHA-1FU	1E	10		CHA-2RU	2E	30
		3E	11			4E	31
		5E	12			6E	32
		7E	13			8E	33
		1F	14			2F	34
		3F	15			6F	35
		5F	16			4F	36
		7F	17			8F	37
	CHA-1FL	1G	18		CHA-2RL	2G	38
		3G	1A			4G	39
		5G	19			6G	40
		7G	1B			8G	3B
		1H	1C			2H	3C
		3H	1D			4H	3D
		5H	1E			6H	3E
		7H	1F			8H	3F
	CHA-1AU/DKA-1AU	9A/SAS-1AU-A1	80		CHA-2MU/DKA-2MU	AA/SAS-2MU-A1	90
		BA/SAS-1AU-A2	81			CA/SAS-2MU-A2	91
		DA/SAS-1AU-A3	82			EA/SAS-2MU-A3	92
		FA/SAS-1AU-A4	83			GA/SAS-2MU-A4	93
		9B	84			AB	94
		BB	85			CB	95
		DB	86			EB	96
		FB	87			GB	97
	CHA-1AL/DKA-1AL	9C/SAS-1AL-A1	88		CHA2ML/DKA-2ML	AC/SAS-2ML-A1	98
		BC/SAS-1AL-A2	89			CC/SAS-2ML-A2	99
		DC/SAS-1AL-A3	8A			EC/SAS-2ML-A3	9A
		FC/SAS-1AL-A4	8B			GC/SAS-2ML-A4	9B
		9D	8C			AD	9C
		BD	8D			CD	9D
		DD	8E			ED	9E
		FD	8F			GD	9F

Module#1

Location		Port#	Location		Port#		
Cluster1	CHA-1GU	1J	40	Cluster2	CHA-2TU	2J	60
		3J	41			4J	61
		5J	42			6J	62
		7J	43			8J	63
		1K	44			2K	64
		3K	45			4K	65
		5K	46			6K	66
		7K	47			8K	67
	CHA-1GL	1L	48	CHA-2TL	2L	68	
		3L	49		4L	69	
		5L	4A		6L	6A	
		7L	4B		8L	6B	
		1M	4C		2M	6C	
		3M	4D		4M	6D	
		5M	4E		6M	6E	
		7M	4F		8M	6F	
	CHA-1HU	1N	50	CHA-2UU	2N	70	
		3N	51		4N	71	
		5N	52		6N	72	
		7N	53		8N	73	
		1P	54		2P	74	
		3P	55		4P	75	
		5P	56		6P	76	
		7P	57		8P	77	
	CHA-1HL	1Q	58	CHA-2UL	2Q	78	
		3Q	59		4Q	79	
		5Q	5A		6Q	7A	
		7Q	5B		8Q	7B	
		1R	5C		2R	7C	
		3R	5D		4R	7D	
		5R	5E		6R	7E	
		7R	5F		8R	7F	
	CHA-1LU /DKA-1LU	9J /SAS-1AU-A1	A0	CHA-2XU /DKA-2XU	AJ /SAS-2MU-A1	B0	
		BJ /SAS-1AU-A2	A1		CJ /SAS-2MU-A2	B1	
		DJ /SAS-1AU-A3	A2		EJ /SAS-2MU-A3	B2	
		FJ /SAS-1AU-A4	A3		GJ /SAS-2MU-A4	B3	
		9K	A4		AK	BC	
		DK	A5		CK	BD	
		BK	A6		EK	BE	
		FK	A7		GK	BF	
	CHA-1LL /DKA-1LL	9L /SAS-1AL-A1	A8	CHA-2XL /DKA-2XL	AL /SAS-2ML-A1	B8	
		BL /SAS-1AL-A2	A9		CL /SAS-2ML-A2	B9	
		DL /SAS-1AL-A3	AA		EL /SAS-2ML-A3	BA	
		FL /SAS-1AL-A4	AB		FL /SAS-2ML-A4	BB	
		9M	AC		AM	BC	
		BM	AD		CM	BD	
		DM	AE		EM	BE	
		FM	AF		GM	BF	

2.3 Log delete

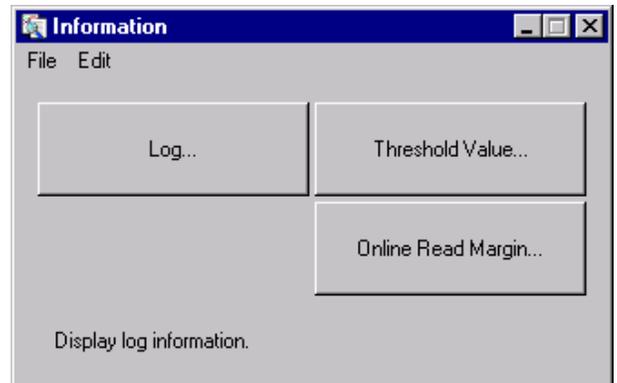
- [1] SSB Log
- [2] SIM Log
- [3] Detail Log
- [4] Reset Log
- [5] Power Event Log
- [6] Incident Log
- [7] HTP Log
- [8] Diagnosis Log
- [9] Copy History Log

(1)

Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Information] in 'SVP' window.

(2)

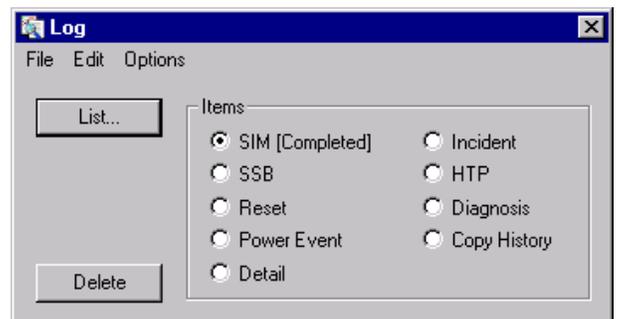
Select (CL) [Log...] in the 'Information' dialog box.



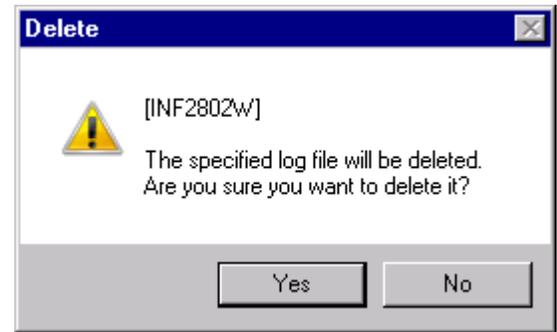
(3)

In the 'Log' dialog box, select (CL) a log to be deleted and select (CL) [Delete].
(For example, select [SIM].)

If the SIM log is deleted, SIM Log Complete (SVP02-650) should be executed beforehand.



- (4) Select (CL) [Yes] in the 'Delete' dialog box.

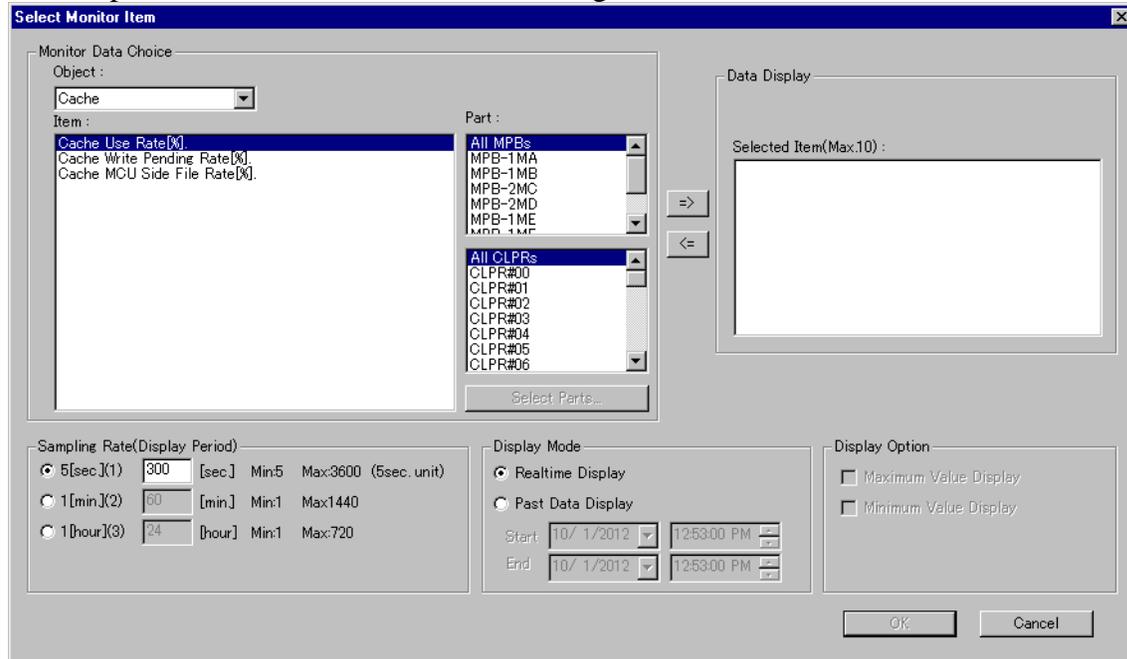


- (5) Close the 'Log' dialog box and close the 'Information' window.
Change the mode from [Modify Mode] to [View Mode].

2.4 Monitoring

2.4.1 Monitoring

<Description of the Select Monitor Item dialog>



■ Monitor Data Choice

Object.....Select the desirable object. You can select “Cache”, “Processor”, “Port”, or “LDEV” (Logical Device).

ItemItems corresponding to the selected object are displayed. You can select multiple items.

PartParts corresponding to the selected object are displayed.

■ Data Display

Selected Item.....The selected items are displayed. You can select up to 10 items in one panel.

[=>] button.....This button adds the displayed items. The selected data is added as data that is already selected as the displayed data.

[<=] button.....The selected items are removed from the list of displayed data.

■ Sampling Rate(Display Period)

Specify the time interval of updating data and the period that data is displayed.

You can specify the display period depending on the selected time interval.

	Display period
5[sec.]	5 seconds to 3600 seconds (1 hour) (units of 5 seconds)
1[min.]	1 minute to 1440 minutes (24 hours)
1[hour]	1 hour to 720 hours (30 days)

*1: If you specify 1440 minutes, the data may not be displayed depending on the window size.

■ Display Mode

Select the display mode. There are two modes. [Realtime Display] displays the current status.

[Past Data Display] displays the data in the past.

[Realtime Display]..... The data will be updated in the specified time interval.

[Past Data Display] You can specify the range of the displayed data.

Specify the start time of the display in Start, and specify the end time of the display in End.

The period you have specified in Sampling Rate (Display Period) is ignored.

■ Display Option

You can select either to display or not to display the maximum/minimum values when you specify 1[min.] or 1[hour] in the Sampling Rate(Display Period). When you select this option, the maximum/minimum values are indicated by the dotted lines in the graph.

If you place a check mark in Maximum Value Display, the maximum value will be displayed. If you place a check mark in Minimum Value Display, the minimum value will be displayed.

SVP02-260

■ Display data item list

#	Part	Item	Description	Remarks
1	Cache	Cache Use Rate	Cache Use Rate	
2		Cache Write Pending Rate	Cache Write Pending Rate	
3		Cache MCU Side File Rate	Cache MCU Side File Rate (Total Side File use rate of CC/XRC)	
4	MP	MP processing Rate	MP processing Rate	
5		MP Processing Rate Open-Target	MP Processing Rate Open-Target	
6		MP Processing Rate Open-Initiator	MP Processing Rate Open-Initiator	
7		MP Processing Rate Open-External	MP Processing Rate Open-External	
8		MP Processing Rate MF-Target	MP Processing Rate MF-Target	
9		MP Processing Rate MF-External	MP Processing Rate MF-External	
10		MP Processing Rate BackEnd	MP Processing Rate BackEnd	
11		MP Processing Rate Others	MP Processing Rate Others	
12	Port (Fibre)	Loss of Signal Count	Loss of Signal Count	Displaying only with Fibre PCB.
13		Bad Received Character Count	Bad Received Character Count	
14		Loss of Synchronization Count	Loss of Synchronization Count	
15		Link Failure Count	Link Failure Count	
16		Received EOFa Count	Received EOFa Count	
17		Discarded Frame Count	Discarded Frame Count	
18		Bad CRC Count	Bad CRC Count	
19		Protocol Error Count	Protocol Error Count	
20	Expired Frame Count	Expired Frame Count		
21	Port (FCoE)	Link Failure Count	Link Failure Count	Displaying only with FCoE PCB.
22		Virtual Link Failure Count	Virtual Link Failure Count	
23		Symbol Error Count	Symbol Error Count	
24		FCS Error Count	FCS Error Count	
25	Port (HTP/ FNP)	HTP/FNP Ex Multiple	HTP/FNP Ex Multiple	Displaying only with FICON PCB.
26		HTP/FNP Read Data Transfer Rate	HTP/FNP Read Data Transfer Rate	
27		HTP/FNP Write Data Transfer Rate	HTP/FNP Write Data Transfer Rate	
28		HTP/FNP Processing Rate	HTP/FNP Processing Rate	

(To be continued)

(Continued from the preceding page)

#	Part	Item	Description	Remarks	
29	Port	Port Total IOPS	IOPS (Read/Write Command Transfer)	Not Displaying with Main Frame PCB.	
30		Port Total Transfer Rate	Transfer Rate (Read/Write Command Transfer)		
31		Port Total Response Time	Response Time (Read/Write Command Transfer)		
32		Port Input IOPS	Initiator/External Port		IOPS (Read Command Transfer)
			Target/RCU Target Port		IOPS (Write Command Transfer)
33		Port Input Transfer Rate	Initiator/External Port		Transfer Rate (Read Command Transfer)
			Target/RCU Target Port		Transfer Rate (Write Command Transfer)
34		Port Input Response Time	Initiator/External Port		Response Time (Read Command Transfer)
			Target/RCU Target Port		Response Time (Write Command Transfer)
35		Port Output IOPS	Initiator/External Port		IOPS (Write Command Transfer)
			Target/RCU Target Port		IOPS (Read Command Transfer)
36		Port Output Transfer Rate	Initiator/External Port		Transfer Rate (Write Command Transfer)
			Target/RCU Target Port		Transfer Rate (Read Command Transfer)
37		Port Output Response Time	Initiator/External Port		Response Time (Write Command Transfer)
	Target/RCU Target Port		Response Time (Read Command Transfer)		
38	LDEV	IOPS	IOPS	It is necessary to select Gathering LDEV Processing Information. (Refer to 2.4.3)	
39		Transfer Rate	Transfer Rate		
40		Read Hit Rate	Read Hit Rate (A hit rate only for random read.)		

- (1) Display the Monitor panel
Press the “Monitor” button in the SVP main panel to start the monitoring feature.

- (2) Display the Select Monitor Item panel
Select (CL) [Monitor]–[Open...] from the menu in the Monitor panel.



(3) Select data to be displayed

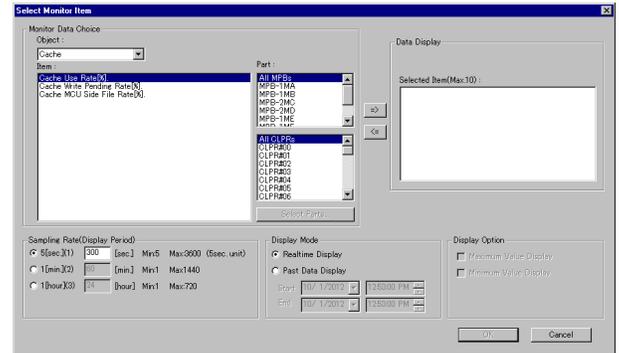
① Select the data you want to display

Select the category whose data you want to display in [Object] in Monitor Data Choice. Available data will appear in [Item]. Select the data you want to display (You can select multiple items). The parts relevant to the selected item will be displayed in [Part]. Choose the desirable part. After selecting [Object], [Item], and [Part], select [=>] button to add the selected items to [Selected Item].

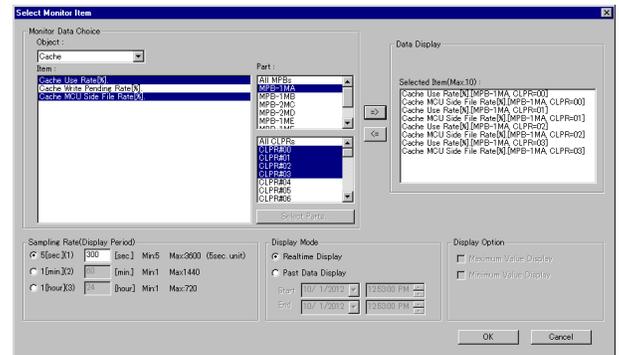
You can display data on up to 10 items. If there is no data in [Selected Item], the [OK] button will not be activated.

If the object part (LDKC:CU:LDEV) is not gathering LDEV processing information, the monitor is not normally displayed. (Refer to “2.4.3 Gathering LDEV Processing Information Selection Function”.)

If the same item is multiply displayed in the list box of Select Monitor Item dialog, open the dialog again and operate while the items are correctly displayed.



- ② Select the display interval and period
In [Sampling Rate(Display Period)], specify the time interval of updating data and the period that data is displayed. Select 5[sec.], 1[min.], or 1[hour] for the time interval of updating data. The interval depends on the data you have selected. You can change the period that the data is displayed.



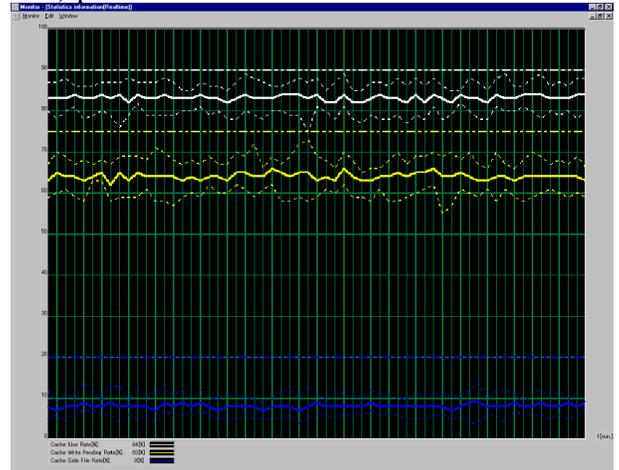
- ③ Specify the display mode
In [Display Mode], select either [Realtime Display] or [Past Data Display]. When you select [Past Data Display], specify Start and End of the display. If you select [Past Data Display], the period you have specified in ② will be ignored.
- ④ Specify the display option
When you select 1[min.] or 1[hour] in Display period, you can choose either to display or not to display the maximum/minimum value within the time interval.

After selecting all the necessary items, select (CL) [OK] to display the Statistics information panel.

(4) Description of the Statistics information (Real Time) panel

The specified data obtained during the specified display period is displayed in the panel, and it is updated in the specified time interval. The data on the left is older data, and that on the right is newer data.

The legends are displayed under the graph (Selected data and colors of lines in the graph). The solid lines indicate the data. The thin dotted lines of the same color as the solid lines indicate the maximum/minimum values of the data. The dot-dot-dash lines of the same color as the solid lines show the threshold (if set).



Note: If the storage system is undergoing the following maintenance operations or CHK1A, CHK1B and CHK3 occurs, the monitoring data might contain extremely large values.

- Adding on, replacing, or removing cache memories.
- Adding on, replacing, or removing disk drives.
- Adding on, replacing, or removing MPB.
- Changing the system configuration.
- Replacing the micro program.
- Formatting LDEVs (including Quick Format).
- PS OFF/ON

(5) Description of Statistics information (Past data) panel

The specified data obtained during the specified period is displayed in the panel. The data is displayed in the same way as Real Time, but the data is not updated. The dates and times of the oldest/latest available data in the specified period and the number of effective data are shown on the right of the legends.



Note: When there are not data in the range that you appointed, it is displayed with “No effective data.” on the right of the legends.

Note: When the number of the effective data chooses different items, “*” mark is displayed in the right side of the number of the effective data.

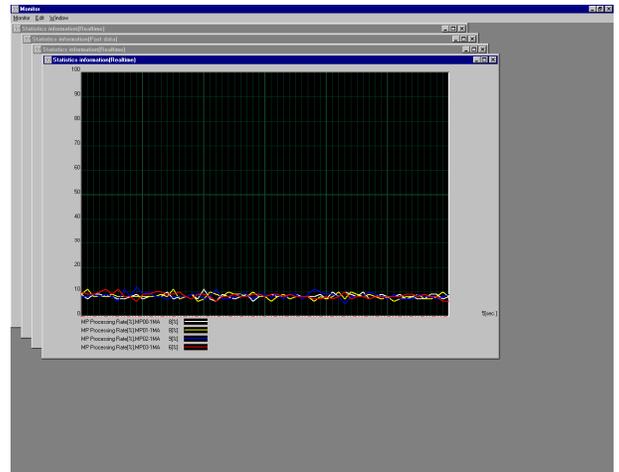
Note: The accumulation period of the past data.

Time interval	Accumulation period
5[sec.]	3600 seconds (1 hour) (units of 5 seconds)
1[min.]	1440 minutes (24 hours) (*1)
1[hour]	744 hours (31 days)

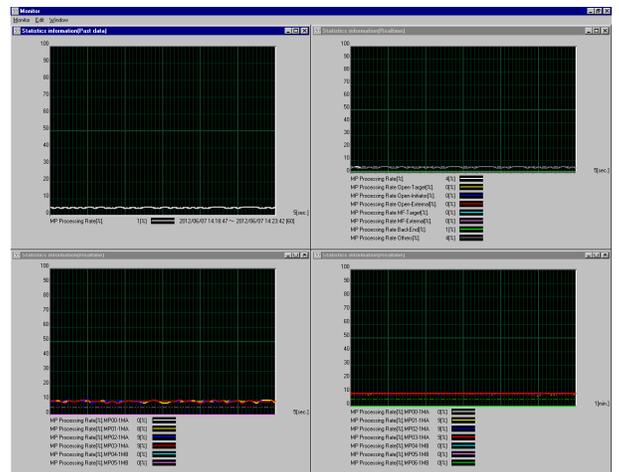
*1: If you specify 1440 minutes, the data may not be displayed depending on the window size.

Note: See the note of “(4) Description of the ‘Statistics information (Real Time) panel’” ([SVP02-290](#)).

- (6) Align the displayed windows
- You can align the windows from the [Window] menu. To cascade the windows, select (CL) [Window]–[Cascade]. To tile them, select (CL) [Window]–[Tile]. To arrange the minimized windows, select (CL) [Window]–[Icon]. To close all windows, select (CL) [Window]–[All Close].



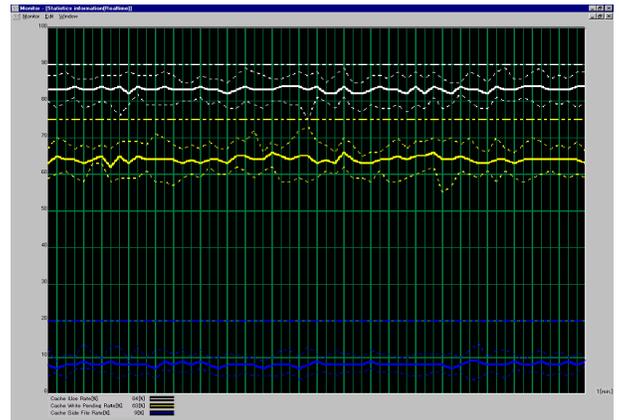
A list of available windows is displayed under the menu. You can select one window to display it in the foreground.



- (7) Exit the Monitor window
- Select (CL) [Monitor]–[Exit] from the menu.

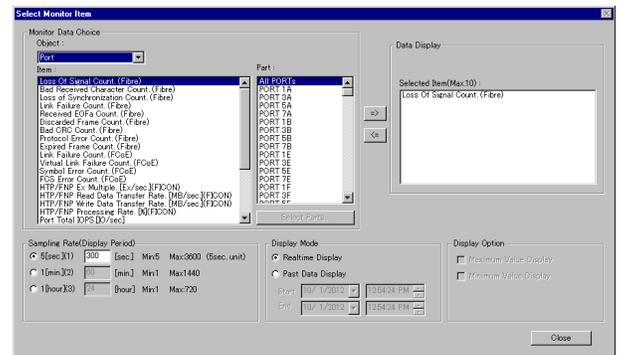
(8) Change the contents displayed in the Statistics information window

- ① Display the Select Monitor Item panel
From the menu in the 'Monitor' window,
select (CL) [Edit]-[Item Add/Delete...].



② Change display items

To add display items, select the category of data you want to display in "Object" in 'Monitor Data Choice'. Available data will appear in "Item". Select the data you want to display. The parts relevant to the selected items will be displayed in "Part". Choose the desirable part. After selecting "Object", "Item", and "Part", select [=>] button to add the selected items to "Selected Item".



To delete display items, select the items you want to delete from "Selected Item". After selecting the items you want to delete, click [=] button to delete the selected items from "Selected Item".

You can display data on up to 10 items.

If you add LDEV items to "Selected Item", the monitoring data is not displayed unless the object part (LDEV:CU:LDEV) is the target of gathering LDEV processing information normally. (See "2.4.3 Gathering LDEV Processing Information Selection Function".)

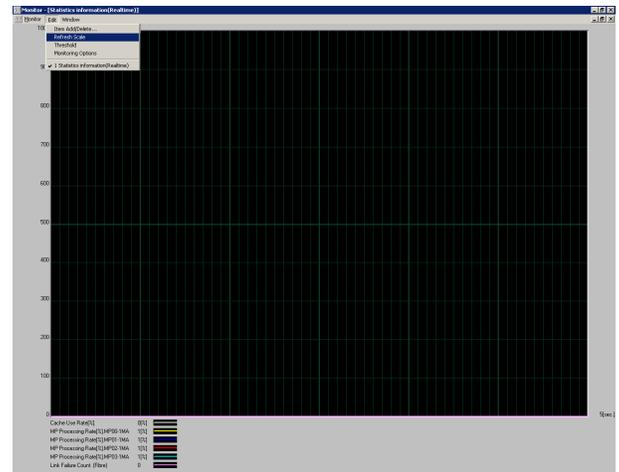
- ③ Change the display interval and period
In “Sampling Rate(Display Period)”, specify the time interval of updating data and the period that data is displayed.
- ④ Change the display mode
In [Display Mode], select either “Realtime Display” or “Past Data Display”.
- ⑤ Change the display option
When you select “1[min.]” or “1[hour]” in Display period, you can choose either to display or not to display the maximum/minimum value within the time interval.

After selecting all the necessary items, select (CL) [Close] to display the Statistics information window.

(9) Scale refresh method of the data display screen

- ① Scale refresh
Select (CL) [Monitor]-[Edit]-[Refresh Scale] from the menu.

Note: You cannot appoint the scale size. It is changed to the most suitable scale by performing scale refresh.



2.4.2 Processing Information Monitoring Function

The processing information monitoring function watches the threshold. If it exceeds the threshold, SIM is reported. For details of the reported SIM, see [SIMRC02-550](#).

<Threshold setting dialog>

Section	Item	Threshold	Over	Term
Cache	<input type="checkbox"/> Cache Use Rate	[] %	Over	[] sec.
	<input type="checkbox"/> Cache Write Pending Rate	[] %	Over	[] sec.
	<input type="checkbox"/> Cache MCU Side File Rate	[] %	Over	[] sec.
MP	<input type="checkbox"/> MP Processing Rate	[] %	Over	[] sec.
LDEV	<input type="checkbox"/> Read Hit Rate	[] %	Under	[] sec.
Port (Fibre)	<input type="checkbox"/> Loss Of Signal Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Bad Received Character Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Loss of Synchronization Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Link Failure Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Received EOFa Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Discarded Frame Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Bad CRC Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Protocol Error Count	[] Cnt./sec.	Over	[] sec.
	<input type="checkbox"/> Expired Frame Count	[] Cnt./sec.	Over	[] sec.
	FCoE	<input type="checkbox"/> Link Failure Count	[] Cnt./sec.	Over
<input type="checkbox"/> Virtual Link Failure Count		[] Cnt./sec.	Over	[] sec.
<input type="checkbox"/> Symbol Error Count		[] Cnt./sec.	Over	[] sec.
<input type="checkbox"/> FCS Error Count		[] Cnt./sec.	Over	[] sec.
FICON	<input type="checkbox"/> HTP/FNP Ex: Multiple	[] Ex./sec.	Over	[] sec.
	<input type="checkbox"/> HTP/FNP Read Data Transfer Rate	[] MB/sec.	Over	[] sec.
	<input type="checkbox"/> HTP/FNP Write Data Transfer Rate	[] MB/sec.	Over	[] sec.
	<input type="checkbox"/> HTP/FNP Processing Rate	[] %	Over	[] sec.

■ List of items to be able to set the threshold

#	Part	Item	Description	Remarks
1	Cache	Cache Use Rate	Cache Use Rate	
2		Cache Write Pending Rate	Cache Write Pending Rate	
3		Cache MCU Side File Rate	Cache MCU Side File Rate	
4	MP	MP Processing Rate	MP Processing Rate	
5	Port (Fibre)	Loss of Signal Count	Loss of Signal Count	Monitoring only with Fibre PCB
6		Bad Received Character Count	Bad Received Character Count	
7		Loss of Synchronization Count	Loss of Synchronization Count	
8		Link Failure Count	Link Failure Count	
9		Received EOFa Count	Received EOFa Count	
10		Discarded Frame Count	Discarded Frame Count	
11		Bad CRC Count	Bad CRC Count	
12		Protocol Error Count	Protocol Error Count	
13		Expired Frame Count	Expired Frame Count	
14	Port (FCoE)	Link Failure Count	Link Failure Count	Monitoring only with FCoE PCB
15		Virtual Link Failure Count	Virtual Link Failure Count	
16		Symbol Error Count	Symbol Error Count	
17		FCS Error Count	FCS Error Count	
18	Port (HTP/ FNP)	HTP/FNP Ex Multiple	HTP/FNP Ex Multiple	Monitoring only with FICON PCB
19		HTP/FNP Read Date Transfer Rate	HTP/FNP Read Date Transfer Rate	
20		HTP/FNP Write Date Transfer Rate	HTP/FNP Write Date Transfer Rate	
21		HTP/FNP Processing Rate	HTP/FNP Processing Rate	
22	LDEV	Read Hit Rate	Read Hit Rate	(*1)

- *1: • The threshold is bottom judgment.
 • In the case of LDEV number with a little cache Reading count, SIM is restrained.

(1) Start of monitor window

Select (CL) the [Monitor] button on the SVP main window, and start the monitoring function.

(2) Starting threshold setting window

Select (CL) [Edit]-[Threshold] from the menu on the 'Monitor' window.



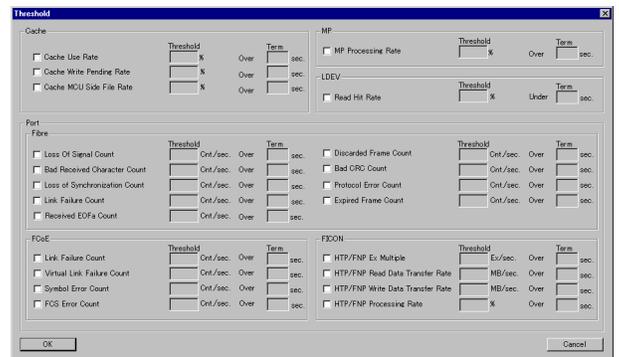
(3) Setting threshold

① Monitoring items

Select (CL) items that you want to perform the threshold monitoring in the 'Threshold' window.

② Threshold and term

Enter the threshold and the consecutive exceeding term of each selected item.



When the selection and the input of all items are completed, select (CL) [OK] and close the window.

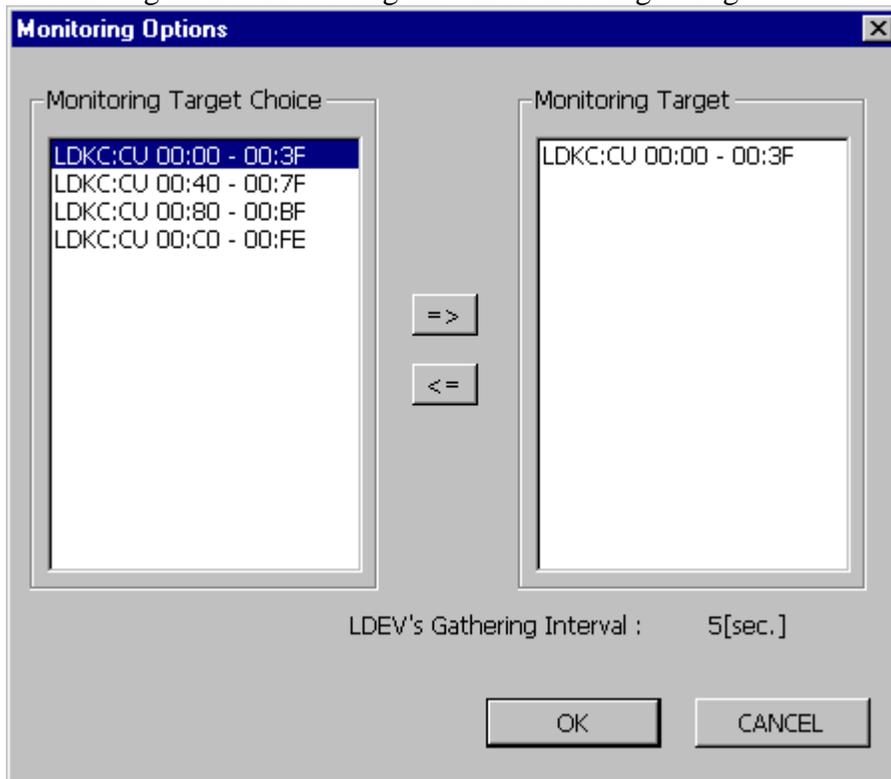
Note: If you have performed SVP Replacement, perform it again.

(4) Exiting the monitor window

Select (CL) [Monitor]-[Exit] from the menu.

2.4.3 Gathering LDEV Processing Information Selection Function

< Gathering LDEV Processing Information setting dialog >



■ Monitoring Target Choice

Select the Gathering processing information item (LDKC:CU).

You can select multiple items.

■ Target Choice

The selected items are displayed.

[=>] button The selected item is added as item that is already selected as the gathering processing information item (LDKC:CU).

[<=] button The selected items are removed from the gathering processing information item (LDKC:CU).

■ LDEV's Gathering Interval

The selected gathering processing information item (LDKC:CU) of Gathering Interval is displayed.

LDEV's Gathering Interval corresponding to the number of selected gathering processing information items (LDKC:CU) is displayed.

Selected Target Choice Item	LDEV's Gathering Interval
0	0[sec.] (No collecting)
1 (64CU)	5[sec.]
2 or more (65CU or more)	60[sec.]

(1) Start of monitor window

Select (CL) the [Monitor] button on the SVP main window, and start the monitoring function.

(2) Starting gathering LDEV processing information setting window

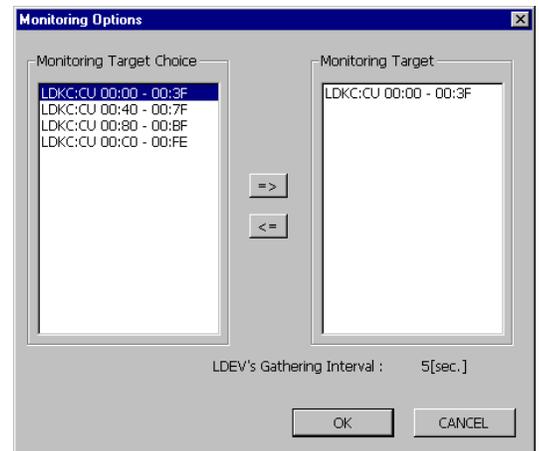
Select [Edit]-[Monitoring Options] from the menu on the 'Monitor' window.



(3) Setting gathering LDEV processing information

Select the gathering processing information whose items (LDKC:CU) you want to gather in Monitoring Target Choice (You can select multiple items). After selecting the gathering processing information items, select [=>] button to add the selected items to [Target Choice].

When the selection items are complete, select (CL) [OK] and close the window.



(4) Exiting the monitor window

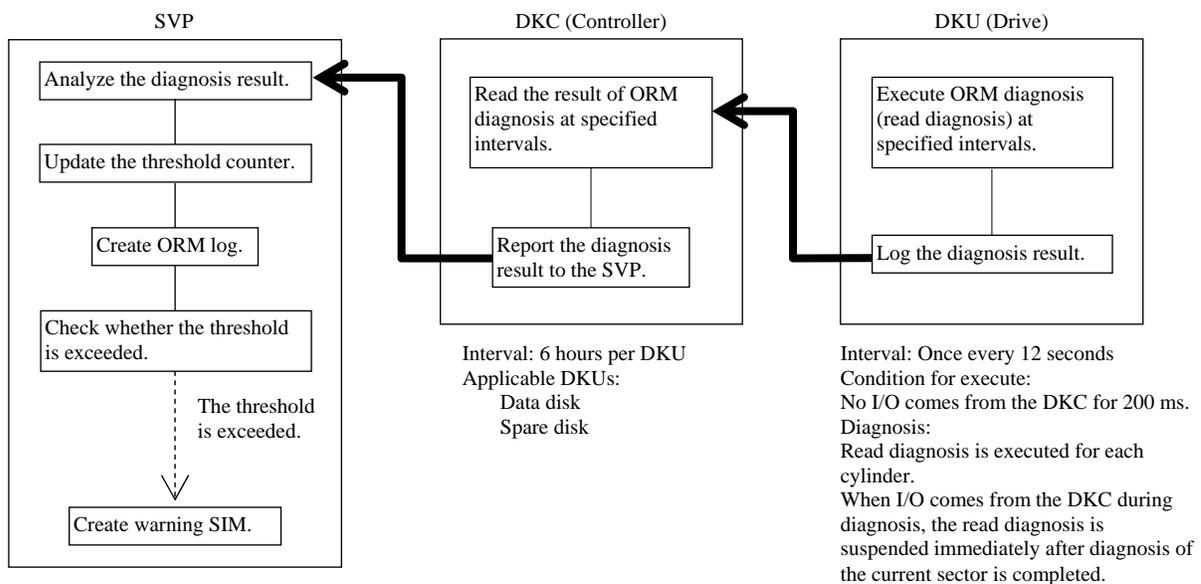
Select (CL) [Monitor]-[Exit] from the menu.

2.5 Online read margin (ORM)

[Overview]

The on-line read margin test (ORM) function is a read diagnostic function provided for preventive maintenance of disk drives. The diagnostic is automatically executed in each drive. The DKC reads the diagnostic result at specified intervals and reports it to the SVP.

The SVP calculates the error ratio to the threshold value which is set in advance, and indicates it in the OVER RATE Display (see [1], (2)). When the Rate in the display exceeds 100%, it means the error count is exceeding the threshold, the SVP creates the warning SIM. It is, however, not reported to the Host. The disk drive reporting the SIM should be exchanged with higher priority than other normal drives.



The following table shows SIM reported by SVP.

Case of the error of SAS/SATA Drive : See Table 2.5-1

Case of the error of Flash Drive : See Table 2.5-2

Case of the error of Flash Module Drive : See Table 2.5-3

They are Unrecovered Read Error, Recovered Read Error, Unrecovered Seek error, Recovered Seek Error, Not Ready and Other Errors. Each has three types of counters indicated as Today, 7 days and Total. Refer to [1], (4) for the Over Rate Counter Display. In the Over Rate Counter Display, the error ratio which has the largest number among those classified types is displayed for each drive to represent each error.

The warning SIMs to be reported in the ORM are shown below.

Table 2.5-1 ORM SIM and Reference Code (SAS/SATA Drive)

No.	Error Type	Reference Code	Meaning
1	Unrecovered Read Error	501X (X = 0 ~ F)	Drive Unit Error
2	Recovered Read Error		
3	Unrecovered Seek Error	502X (X = 0 ~ F)	Drive Media Error
4	Recovered Seek Error		
5	Not Ready		
6	Other Errors		

Table 2.5-2 ORM SIM and Reference Code (Flash Drive)

No.	Error Type	Reference Code	Meaning
1	Total Defect Count	501X (X = 0 ~ F)	Drive Unit Error
2	Total Uncorrected Errors	—	Informed Only
3	Errors Corrected With Possible Delays		
4	Highest Erase Count For All Channels		
5	Lowest Erase Count For All Channels		
6	Used Endurance Indicator (*1)	50BX (X = 0 ~ F)	Flash Drive End of life

*1: When the drive model is SLRxx-MxxxSS, it is displayed.

Table 2.5-3 ORM SIM and Reference Code (Flash Module Drive)

No.	Error Type	Reference Code	Meaning
1	Total Defect Count	501X (X = 0 ~ F)	Drive Unit Error
2	Reboot Error		
3	DMA Error		
4	Memory Error		
5	Uncorrected Error	502X (X = 0 ~ F)	Drive Media Error
6	Used Endurance Indicator	50CX (X = 0 ~ F)	Flash Module Drive End of life
7	Battery Error	501X (X = 0 ~ F)	Drive Unit Error
8	FMD Battery Life Indicator	50DX (X = 0 ~ F)	Flash Module Drive Battery Warning

SVP02-410

[1] Displaying an error count, thresholds, and log -----	SVP02-420
[2] Resetting an error count -----	SVP02-470
[3] Displaying thresholds -----	SVP02-490
[4] Altering a threshold -----	SVP02-510
[5] Displaying the ORM running status -----	SVP02-530
[6] Resetting thresholds -----	SVP02-540
[7] Set of the threshold of all Flash Drive -----	SVP02-551

(1)

Check SVP Mode.

The Following operation needs SVP Mode to be 'Modify'. (See [SVP01-200](#))

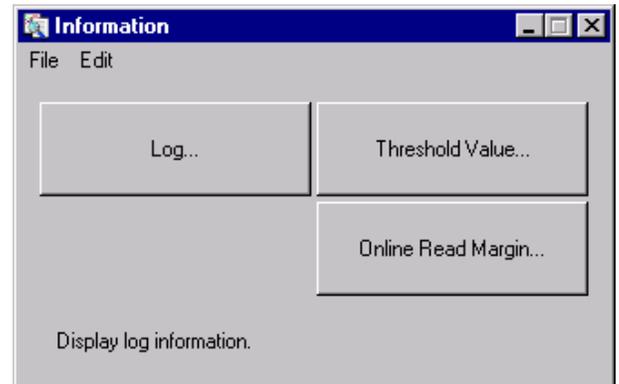
- [2] Resetting an error count
- [4] Altering a threshold
- [6] Resetting thresholds
- [7] Set of the threshold of all Flash Drive

(2)

Select (CL) the [Information] in the 'SVP' window.

(3)

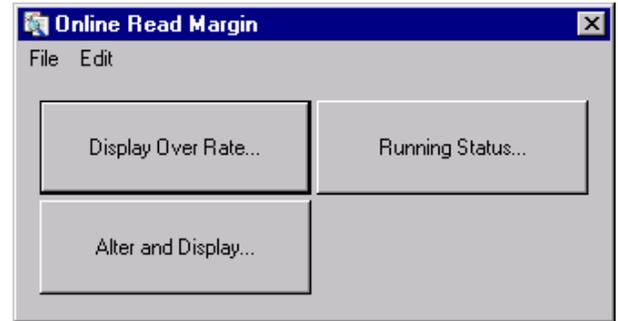
Select (CL) [Online Read Margin...] in the 'Information' window.



[1] Displaying an error count, thresholds, and log

(1)

Select (CL) [Display Over Rate...] in the 'Online Read margin' window.



(2)

Enter a number from 0 to 100 at "Rate" in the 'ORM Over Rate HDD# Display' dialog box. Select (CL) [Display].

Then only the HDDs which have the rate of equal to or greater than the input number at "Rate" will appear in the display.

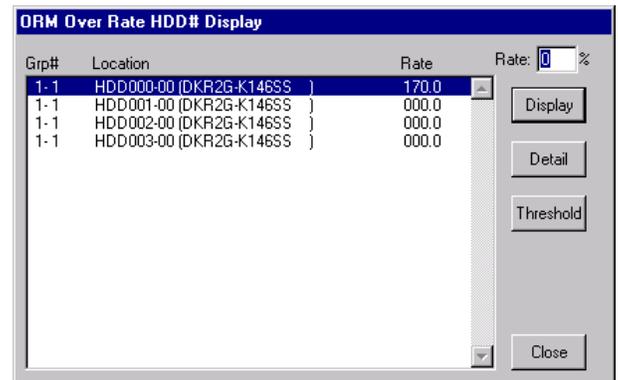
Rate : ratio of the number of errors for the threshold value.

Grp# : the parity group.

SPARE : spare HDD

RSRVD : reserved HDD with sparing

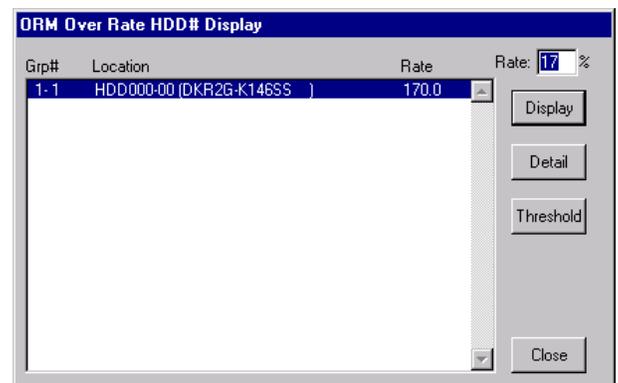
* : spare HDD in use.



(3)

When more detailed information is needed for the particular drive, select (CL) the HDD from the HDD Location list box.

Select (CL) [Detail].



(4)

In the 'Over Rate Counter Display' dialog box, select (CL) the error for which detailed log is to be displayed from the "ID" list box. Select (CL) [ORM Log].

Note: In the case of Flash Drive or Flash Module Drive, I cannot choose [ORM Log].

(SAS/SATA Drive Selected)

Over Rate Counter Display			
HDD Location:HDD002-00 (DKR5D-J900SS)			
Information	Today	7 days	Total
Read Error (Unrecovered)	00000016/15	00000016/-	00000016/-
Read Error (Recovered)	0.00e+000[Error/bit]	00000000/4.734440e+012	
Seek Error (Recovered)	00000000/100	00000000/300	00000000/-
Seek Error (Unrecovered)	00000000/10	00000000/30	00000000/-
Not Ready	00000000/10	00000000/30	00000000/-
Other Errors	00000000/10	00000000/30	00000000/-

[Current Value / Threshold Value], [Current Value / Dynamic Sparing (Warning SIM)]

(Flash Drive Selected)

Over Rate Counter Display			
HDD Location:HDD000-0E (SLR5A-S400SS)			
Information	Today	7 days	Total
Total Defect Count	-	-	00000000/100
Total Uncorrected Errors	-	-	00000000/-
Errors Corrected with possible Delays	-	-	00000000/-
Highest Erase Count for all channels	-	-	00000000/-
Lowest Erase Count for all channels	-	-	00000000/-

[Current Value / Threshold Value], [Current Value / Dynamic Sparing (Warning SIM)]

(Flash Drive Selected: Drive type SLRxx-MxxxSS)

Over Rate Counter Display			
HDD Location:HDD007-06 (SLR5B-M400SS)			
Information	Today	7 days	Total
Total Defect Count	-	-	00000000/100
Total Uncorrected Errors	-	-	00000000/-
Errors Corrected with possible Delays	-	-	00000000/-
Highest Erase Count for all channels	-	-	00000000/-
Lowest Erase Count for all channels	-	-	00000000/-
Used Endurance Indicator	-	-	00000000/99(95)

[Current Value / Threshold Value], [Current Value / Dynamic Sparing (Warning SIM)]

(Flash Module Drive Selected)

Over Rate Counter Display			
HDD Location:HDD020-05 (NFH1A-P1R6SS)			
Information	Today	7 days	Total
Total Defect Count	-	-	00000000/ 0
Reboot Error	00000000/2	-	-
DMA Error	00000000/10	-	-
Memory Error	00000000/500	-	-
Uncorrected Error	00000000/512	-	-
Used Endurance Indicator	-	-	00000000/99(95)
Battery Error	00000000/1	-	-
FMD Battery Life Indicator	-	-	00000002/95

[Current Value / Threshold Value], [Current Value / Dynamic Sparing (Warning SIM)]

• In case of SAS/SATA Drive

Item	Description
ID (Information) (*1)	Read Error (Unrecovered) : A disk media error was detected. After ten times retries, the error was judged that it might become a serious media error which could not be recovered with ECC or retries.
	Read Error (Recovered) : A disk media error was detected. After ten times retries, the error was judged that it was an intermittent read error and recoverable, and included in the error rate management for the preventive maintenance.
	Seek Error (Recovered) : A seek error was detected. After ten times retries, the error was judged to be recoverable.
	Seek Error (Unrecovered) : A seek error was detected. After ten times retries, the error was judged to be unrecoverable.
	Not Ready : Not Ready status of the drive was detected.
	Other Errors : Any error which does not belong to the above classification was detected.
Today	One day count and cleared at AM 0:00 every day.
7 days	For the cumulative value in the latest 7 days.
Total	Shows the total cumulative count.

*1: Except for “Read Error (Recovered)”:

Each error category indicates the Error Count and the Threshold value.
The “-” for the Threshold value means no threshold is set.

For “Read Error (Recovered)”:

Only the Read Error (Recovered) has an error rate expression.

It is not managed with error count per day, per 7 days or Total.

The error rate of the Read Error [Recovered] is calculated in the following formula:

Error rate = Number of error sectors/Number of ORM scan bits

Note: Only the result from approximately the latest one volume scan in ORM is used for the calculation.

• In case of Flash Drive

Item	Description
Information	Total Defect Count : Defect Count
	Total Uncorrected Errors : The total of the uncorrectable error (*1)
	Errors Corrected With Possible Delays : The total of the delay error (*1)
	Highest Erase Count For All Channels : Highest Erase Count For All Channels (*1)
	Lowest Erase Count For All Channels : Lowest Erase Count For All Channels (*1)
	Used Endurance Indicator : Flash Drive End of lifetime (%) (*2)
Today	One day count and cleared at AM 0:00 every day.
7 days	For the cumulative value in the latest 7 days.
Total	Shows the total cumulative count.

*1: When the drive model is SLRxx-SxxxSS and SLRxx-MxxxSS, the value of each item is displayed by 0 fixation.

*2: When the drive model is SLRxx-MxxxSS, Used Endurance Indicator is displayed. And, Used Endurance Indicator is displayed in the order of “Current Value / Dynamic Sparring (Warning SIM)”.

• In case of Flash Module Drive

Item	Description
Information	Total Defect Count : Defect Count
	Reboot Error : Reboot Error Count
	DMA Error : DMA Error Count
	Memory Error : Memory Error Count
	Uncorrected Error : Uncorrected Error Count
	Used Endurance Indicator : Flash Module Drive End of lifetime (%) (*1)
	Battery Error : Battery Error Count
	FMD Battery Life Indicator : Warning for lifetime of Flash Module Drive Battery (%)
Today	One day count and cleared at AM 0:00 every day.
7 days	For the cumulative value in the latest 7 days.
Total	Shows the total cumulative count.

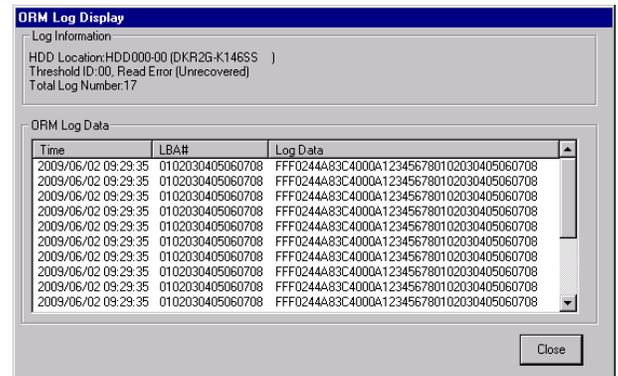
*1: Used Endurance Indicator is displayed in the order of “Current Value / Dynamic Sparring (Warning SIM)”.

Because these information is multiplication values since HDD operation time, SVP display only total indication in case of Flash Drive. SVP display total indication of “Total Defect Count”, “Used Endurance Indicator” and “FMD Battery Life Indicator” and display today indication of the others in case of Flash Module Drive.

The “-” for the Threshold value means no threshold is set.

(5)

The nature of the error selected in step (4) is displayed.



Byte	Bit	Name	Explanation
0-3		UCT	Time when the diagnostic result was reported from the DKC to the SVP.
4	0	Log Valid	When this bit is 1, it indicates that this log is valid.
	1	Address Valid	When this bit is 1, it indicates that the address information in bytes 8 to F is valid.
	2-3	(Reserved)	Reserved
	4-7	Sense Key	Error sense key in the SCSI drive report. (*1)
5		Additional Sense Code	Additional sense code in the SCSI drive report .(*1)
6		Sense Code Qualifier	Additional sense code qualifier in the SCSI drive report. (*1)
7		Seek Error Count	Number of seek errors within 10 seek error retries.
8-9		CC	Address of the cylinder where the error occurred.
A		H	Address of the head where the error occurred.
B		S	Address of the sector where the error occurred.
C-13		LBA	LBA where the error occurred.

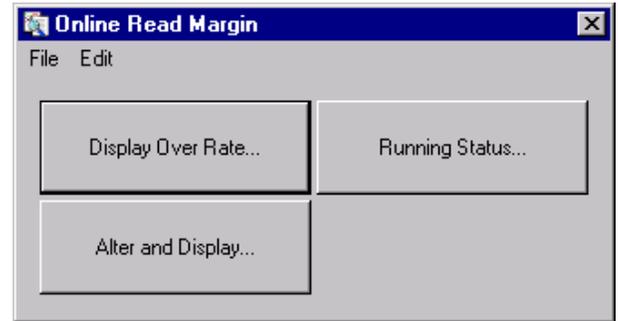
*1: Definition and contents of the error codes are same as those of the SSB for ordinary DKU errors.

-
- (6)
Select (CL) [Close] in the 'ORM Log Display' dialog box.
-
- (7)
Select (CL) [Close] in the 'Over Rate Counter Display' dialog box.
-
- (8)
Select (CL) [Close] in the 'ORM Over Rate HDD# Display' dialog box.
-
- (9)
Close the 'Information' window.

[2] Resetting an error count

(1)

Select (CL) [Display Over Rate...] in the 'Online Read Margin' window.



(2)

Enter a number from 0 to 100 at 'Rate' in the 'ORM Over Rate HDD# Display' dialog box. Select (CL) [Display].

Then only the HDDs which have the rate of equal to or greater than the input number at "Rate" will appear in the display.

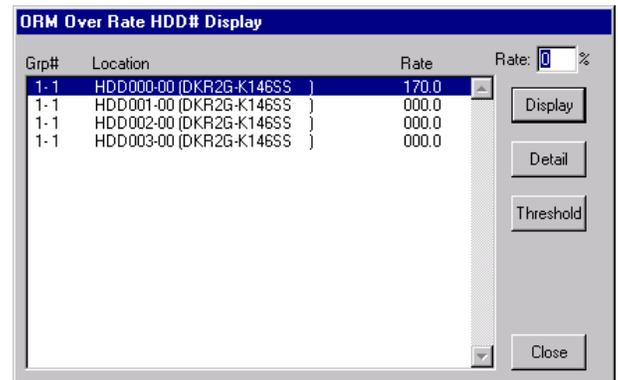
Rate : ratio of the number of errors for the threshold value.

Grp# : the parity group.

SPARE : spare HDD

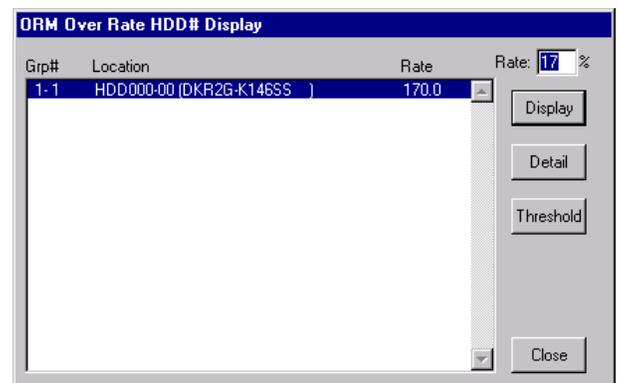
RSRVD : reserved HDD with sparing

* : spare HDD in use.



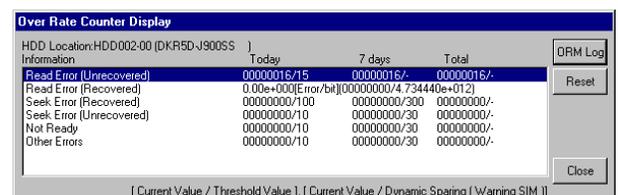
(3)

In the 'ORM Over Rate HDD# Display' dialog box, select (CL) the HDD for which an error count and thresholds are to be reset from the HDD Location list box. Select (CL) [Detail].

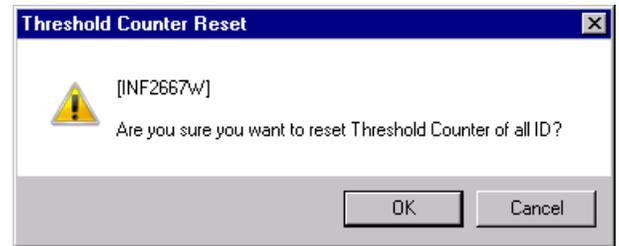


(4)

In the 'Over Rate Counter Display' dialog box, select (CL) [Reset] button.



- (5) Select (CL) [OK] in the 'Threshold Counter Reset' dialog box.



- (6) Select (CL) [Close] in the 'Over Rate Counter Display' dialog box.

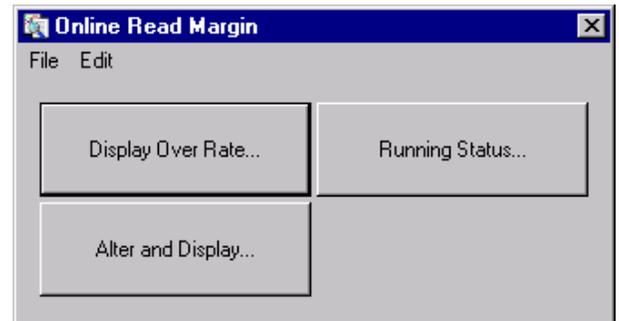
- (7) Select (CL) [Close] in the 'ORM Over Rate HDD# Display' dialog box.

- (8) Close the 'Information' window.

[3] Displaying thresholds

(1)

Select (CL) [Alter and Display...] in the 'Online Read Margin' window.



(2)

In the ‘ORM Threshold Alter/Display’ dialog box, select (CL) an HDD from the “HDD#” list box and select (CL) [Display]. In order to display threshold of another interval, select (CL) the interval from the “Type” radio button.

Note: Multiple HDDs can be selected (CL) from the “HDD#” list box while the control key is being held down.

When “Flash Drive” is selected in the “HDD#” list box, HDD other than “Flash Drive” cannot be selected at the same time. In this case, each “Threshold” field in the “Threshold Value” list box shows the threshold for the HDD that is highlighted in the “HDD#” list box.

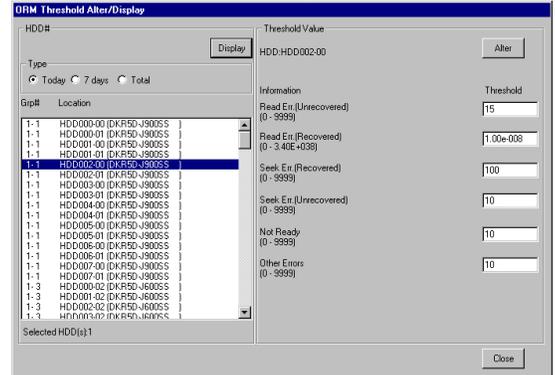
- Grp# : the parity group.
- SPARE : spare HDD
- RSRVD : reserved HDD with sparing
- * : spare HDD in use.

Note: When selected (CL) HDD from the “HDD#” list box is “Flash Drive”, “Information” field in the “Threshold Value” shows the item of “Flash Drive”. In order to display threshold of “Total Defect Count”, select (CL) “Total” from the “Type” radio button.

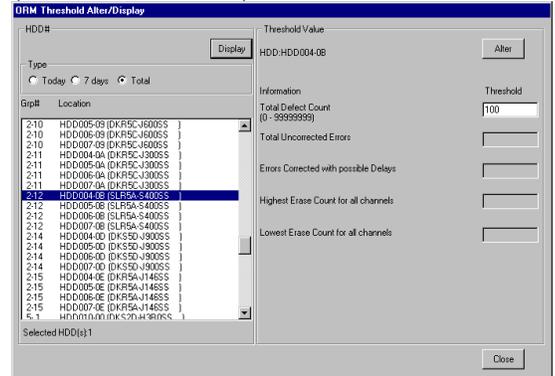
Note: When selected (CL) HDD from the “HDD#” list box is “Flash Module Drive”, “Information” field in the “Threshold Value” shows the item of “Flash Module Drive”.

In order to display threshold of “Total Defect Count”, “Used Endurance Indicator” and “FMD Battery Life Indicator”, select (CL) “Total” from the “Type” radio button. In order to display threshold of the other, select (CL) “Today” from the “Type” radio button.

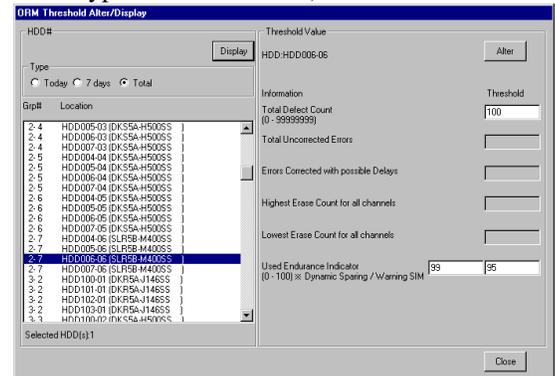
(SAS/SATA Drive Selected)



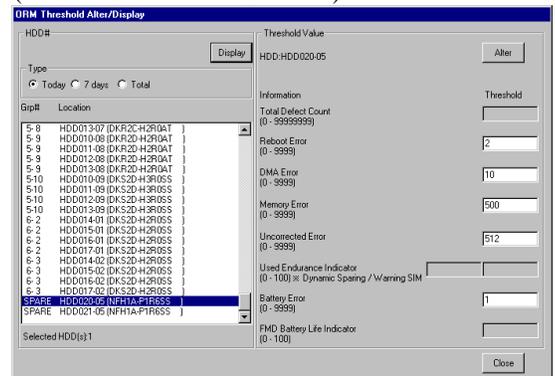
(Flash Drive Selected)



(Flash Drive Selected: Drive type SLRxx-MxxxSS)



(Flash Module Drive Selected)



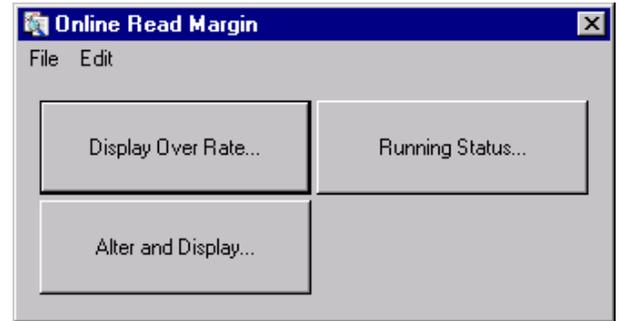
(3)

Select (CL) [Close] in the 'ORM Threshold Alter/Display' dialog box and close the 'Information' window.

[4] Altering a threshold

(1)

Select (CL) [Alter and Display...] in the 'Online Read Margin' window.



(2)

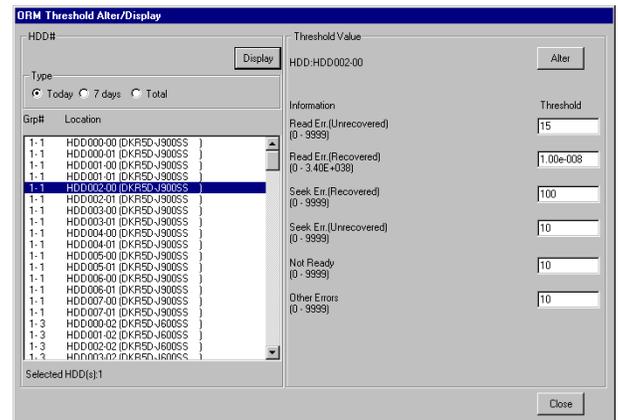
In the 'ORM Threshold Alter/Display' dialog box, select (CL) an HDD from the "HDD#" list box and select (CL) [Display]. In order to display threshold of another interval, select (CL) the interval from the "Type" radio button.

Grp# : the parity group.

SPARE : spare HDD

RSRVD : reserved HDD with sparing

* : spare HDD in use.



(3)

In the 'ORM Threshold Alter/Display' dialog box, alter the threshold in the "Threshold" field in the "Threshold Value" list box. Then select (CL) [Alter].

Note: When multiple HDDs are selected in the "HDD#" list box, the thresholds of all HDDs are altered to the same value. Different drive types of the threshold management cannot be selected at the same time.

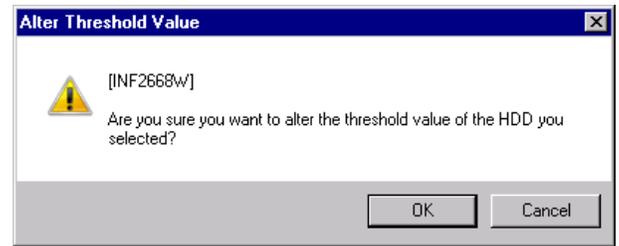
(SAS/SATA Drive Selected)

(Flash Drive Selected)

(Flash Drive Selected: Drive type SLRxx-MxxxSS)

(Flash Module Drive Selected)

- (4) Select (CL) [OK] in the 'Alter Threshold Value' dialog box.

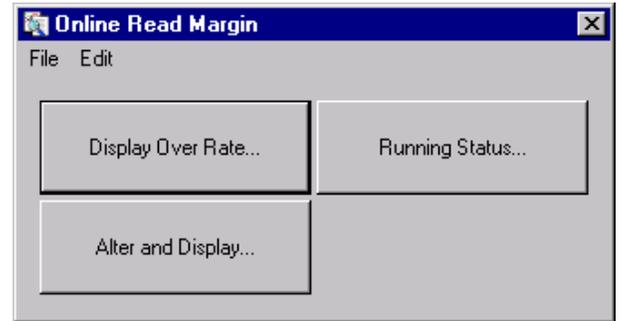


- (5) Select (CL) [Close] in the 'ORM Threshold Alter/Display' dialog box and close the 'Information' window.

[5] Displaying the ORM running status

(1)

Select (CL) [Running Status...].



(2)

In the 'ORM Running Status Display' dialog box, the ORM running status is displayed as the number of sectors.

Note: The "HDD#" list box shows the location numbers of HDDs. "Scan" shows the number of scanned sectors. "Total" shows the total number of sectors in the drive. "Times" shows the number of times the entire drive was scanned. Result of calculating "Scan" / "Total".

Grp# : shows the parity group.

SPARE : spare HDD

RSRVD : reserved HDD with sparing

* : spare HDD in use.

Note: When "Flash Drive" or "Flash Module Drive" is displayed, "Scan", "Total", "Times" is "-".

(SAS/SATA Drive Selected)

Grp#	Location	Scan	Total	Times
1-1	HDD000-00 (DKR2G-K146SS)	3.576156e+006	/ 4.294967e+009	(0.0)
1-1	HDD001-00 (DKR2G-K146SS)	0.000000e+000	/ 2.807902e+008	(0.0)
1-1	HDD002-00 (DKR2G-K146SS)	0.000000e+000	/ 2.807902e+008	(0.0)
1-1	HDD003-00 (DKR2G-K146SS)	0.000000e+000	/ 2.807902e+008	(0.0)

(Flash Drive or Flash Module Drive Selected)

Grp#	Location	Scan	Total	Times
1-10	HDDR02-09 (DKR2H-K450FC)	0.000000e+000	/ 8.604808e+008	(0.0)
1-10	HDDR03-09 (DKR2H-K450FC)	0.000000e+000	/ 8.604808e+008	(0.0)
1-11	HDDR00-0A (DKR2H-K300FC)	2.662078e+008	/ 1.000000e+003	(266207.8)
1-11	HDDR01-0A (DKR2H-K300FC)	2.663307e+008	/ 1.000000e+003	(266330.7)
1-11	HDDR02-0A (DKR2H-K300FC)	2.662212e+008	/ 1.000000e+003	(266221.2)
1-11	HDDR03-0A (DKR2H-K300FC)	2.667725e+008	/ 1.000000e+003	(266772.5)
1-15	HDDR00-0E (SDT2A-S072FC)	-	-	-
1-15	HDDR01-0E (SDT2A-S072FC)	-	-	-
1-15	HDDR02-0E (SDT2A-S072FC)	-	-	-
1-15	HDDR03-0E (SDT2A-S072FC)	-	-	-
2-1	HDDR04-00 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-1	HDDR05-00 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-1	HDDR06-00 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-1	HDDR07-00 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-2	HDDR04-01 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-2	HDDR05-01 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-2	HDDR06-01 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-2	HDDR07-01 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-3	HDDR04-02 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)
2-3	HDDR05-02 (DKR2F-K146FC)	0.000000e+000	/ 2.807902e+008	(0.0)

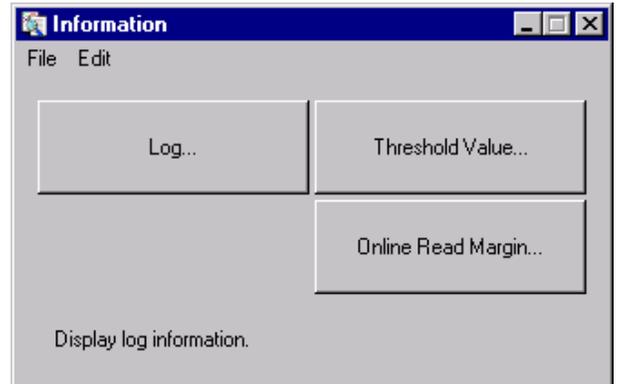
(3)

Select (CL) [Close] in the 'ORM Running Status Display' dialog box and close the 'Information' window.

[6] Resetting thresholds

(1)

Select (CL) [File]-[Exit] in the 'Information' window.

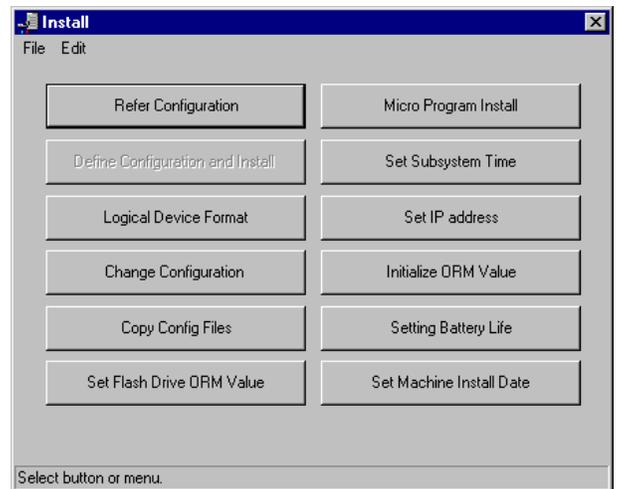


(2)

Select (CL) [Install] in the 'SVP'.

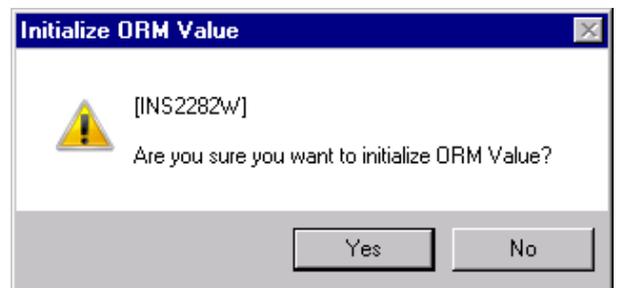
(3)

Select (CL) [Initialize ORM Value] in the 'Install' window.



(4)

Select (CL) [Yes] in the 'Initialize ORM Value' dialog box.

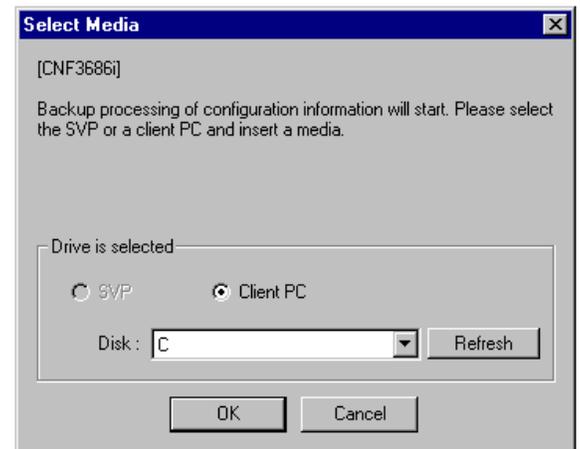


- (5) Select (CL) [OK] in the ‘Initialize ORM Value’ dialog box.

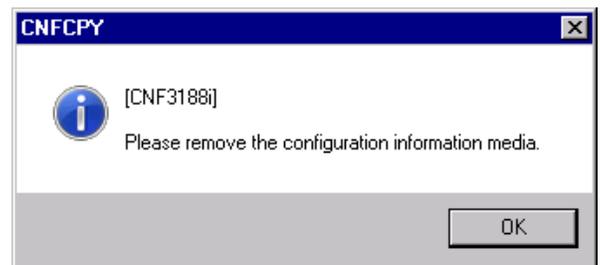


- (6) Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted.
Select (CL) the [OK] button.

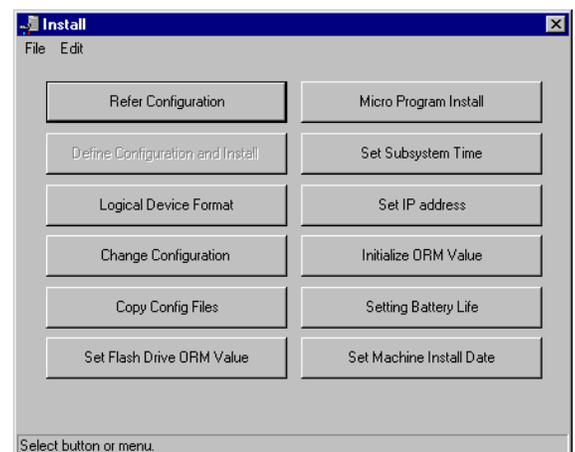
Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



- (7) When this procedure is completed, the message “Please remove the configuration information media.” is displayed. Remove the configuration information media, select (CL) [OK].



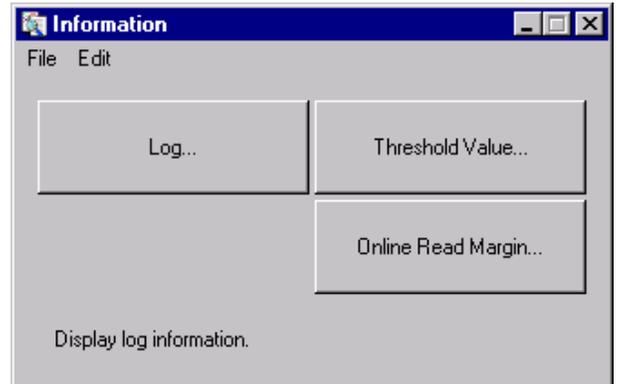
- (8) After the procedure is completed, return to “Install”.
Select (CL) [File]-[Exit].



[7] Set of the threshold of all Flash Drive

(1)

Select (CL) [File]-[Exit] in the 'Information' window.

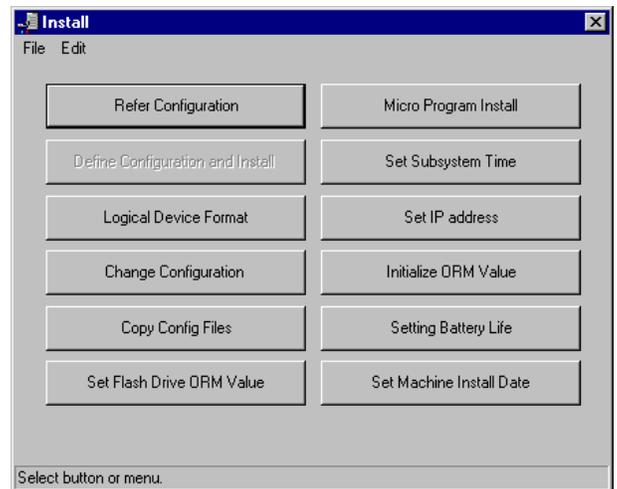


(2)

Select (CL) [Install] in the 'SVP'.

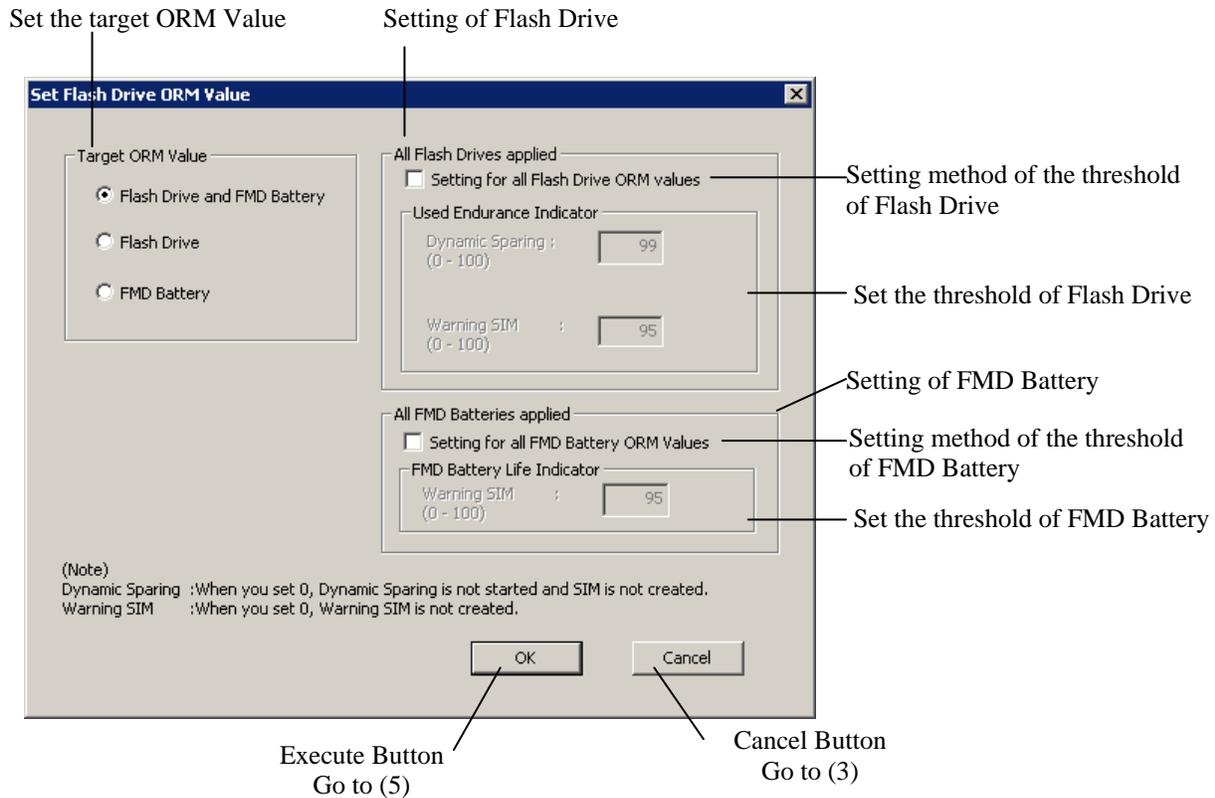
(3)

Select (CL) [Set Flash Drive ORM Value] in the 'Install' window.



(4)

Set a setting method of the threshold and the threshold, and then select (CL) the [OK] button.



<<Set the target ORM Value>>

[Target ORM Value]

Flash Drive and FMD Battery : This setting changes the threshold of Flash Drive and FMD Battery.

Flash Drive : This setting changes the threshold of Flash Drive.

FMD Battery : This setting changes the threshold of FMD Battery.

<<Setting of Flash Drive>>

[All Flash Drives applied]

<Setting method of the threshold of Flash Drive>

Setting for all Flash Drive ORM Values

When you want to set the threshold of Used Endurance Indicator of all Flash Drives, attach a check.

When it is checked, the Flash Drive installed after this operation becomes the same threshold automatically. When you want to cancel this setting, check off. When you want to return the threshold to initial value (Dynamic Sparing threshold: 99/Warning SIM threshold: 95), do reset operation of the threshold. ([SVP02-540](#))

<Set the threshold of Flash Drive>

[Used Endurance Indicator]

- Dynamic Sparing : When there is a spare drive, this is the threshold to start Dynamic Sparing. When reach the threshold that you set, start Dynamic Sparing and create SIM. Valid number is 0 - 100. When you set 0, does not start Dynamic Sparing and does not create SIM.
- Warning SIM : This is the threshold to create Warning SIM. When reach the threshold that you set create Warning SIM. Valid number is 0 - 100. When you set 0, does not create Warning SIM.

<<Setting of FMD Battery>>

[All FMD Batteries applied]

<Setting method of the threshold of FMD Battery>

Setting for all FMD Battery ORM Values

When you want to set the threshold of FMD Battery Life Indicator of all FMD Battery, attach a check.

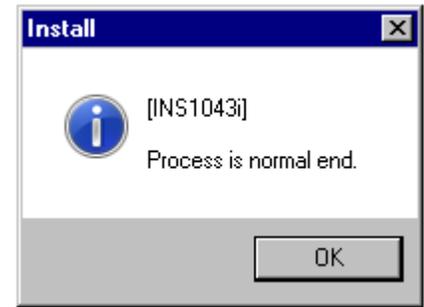
When it is checked, the FMD Battery installed after this operation becomes the same threshold automatically. When you want to cancel this setting, check off. When you want to return the threshold to initial value (Warning SIM threshold: 95), do reset operation of the threshold. ([SVP02-540](#))

<Set the threshold of FMD Battery>

[FMD Battery Life Indicator]

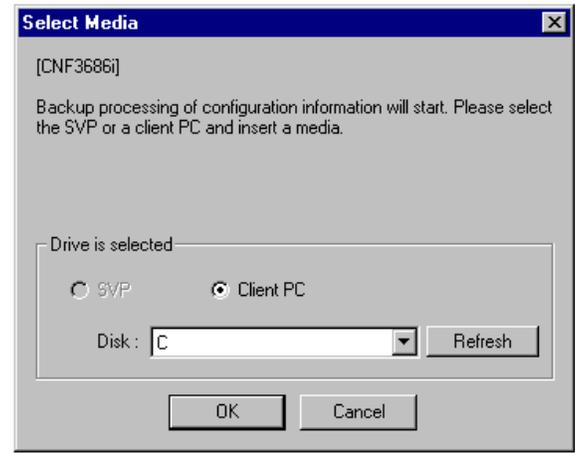
- Warning SIM : This is the threshold to create Warning SIM. When reach the threshold that you set create Warning SIM. Valid number is 0 - 100. When you set 0, does not create Warning SIM.

- (5) Select (CL) [OK] in the “Process is normal end.”.

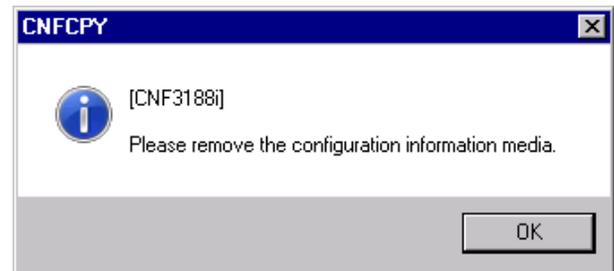


- (6) Execute an operation for backing up the configuration information. Prepare the removable media for backup and insert the media. Please select (CL) the [Refresh] button, and update drive information. Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

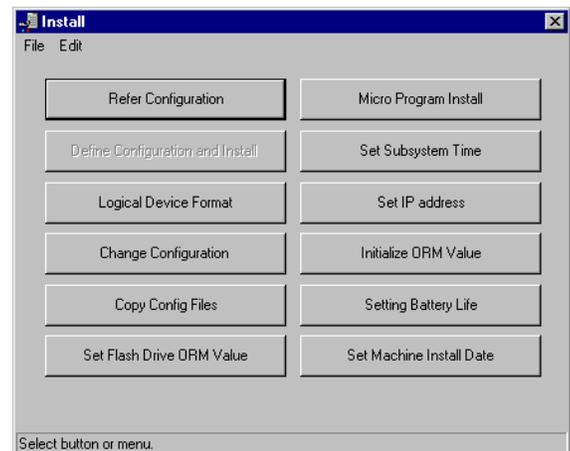
Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



- (7) When this procedure is completed, the message “Please remove the configuration information media.” is displayed. Remove the configuration information media, select (CL) [OK].



- (8) After the procedure is completed, return to “Install”. Select (CL) [File]-[Exit].

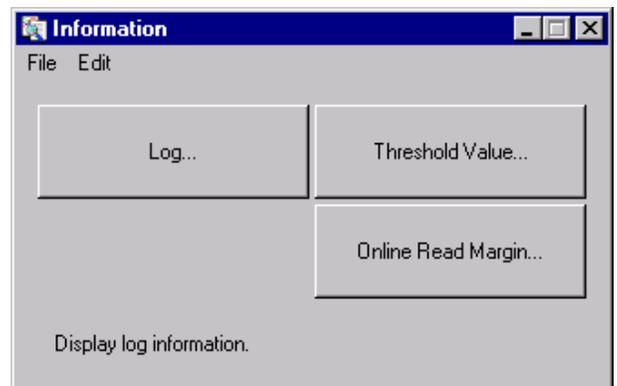


2.6 SIM Reporting Specification

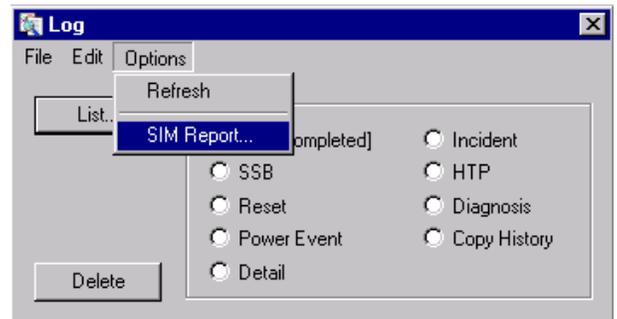
- [1] DKC SIM
- [2] Cache SIM
- [3] Media SIM
- [4] Device SIM

- (1)
Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Information].

- (2)
Select (CL) [Log...] in the 'Information window'.

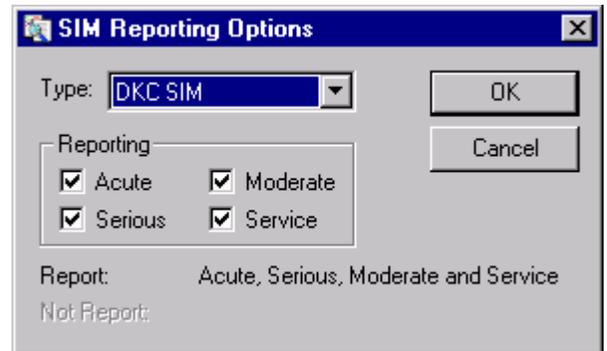


- (3)
Select (DR) [SIM Report...] from the [Options] menu in the 'Log' dialog box.



- (4) Select (CL) SIM report type from the 'Type' list box.

Type : DKC SIM
Cache SIM
Media SIM
Device SIM



Select (CL) the level to be reported in the 'SIM Reporting Option' dialog box, and also select (CL) [OK].

SIM message report level are arranged as follows in order of the higher level.

Acute > Serious > Moderate > Service

Selecting level, means all higher levels are to be reported.

-
- (5) Close the 'Log' dialog box and also close the 'Information' window.
Change the mode from [Modify Mode] to [View Mode].

2.7 Management of drive threshold values

- [1] Displaying threshold values ----- [SVP02-590](#)
- [2] Altering threshold value ----- [SVP02-600](#)
- [3] Displaying an error count ----- [SVP02-620](#)
- [4] Resetting an error count ----- [SVP02-630](#)

(1)

Check SVP Mode.

The Following operation needs SVP Mode to be 'Modify'. (See [SVP01-200](#))

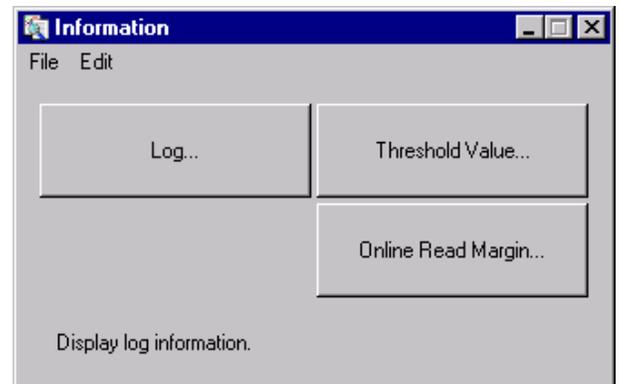
- [2] Altering threshold value
- [4] Resetting an error count

(2)

Select (CL) the [Information] window in the 'SVP' window.

(3)

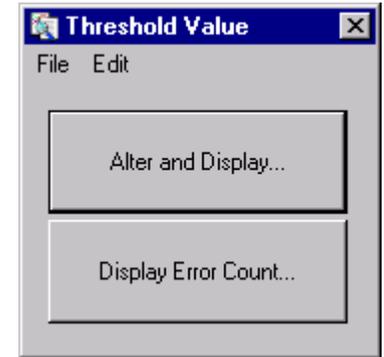
Select (CL) [Threshold Value...] in the 'Information' window.



[1] Displaying threshold values

(1)

Select (CL) [Alter and Display...] in the 'Threshold Value' window.



(2)

Select (CL) an HDD location from the "HDD#" list box in the 'Threshold Alter/Display' dialog box and select (CL) [Display].

In order to display threshold of another interval, select (CL) the interval from the "Type" list box.

Note: Multiple HDD locations can be selected (CL) from the "HDD#" list box while the control key being held down. The threshold value in the "Threshold Value" list box shows the threshold value for the HDD location that is highlighted in the "HDD#" list box.

Recovered: Threshold of errors recoverable by retry.

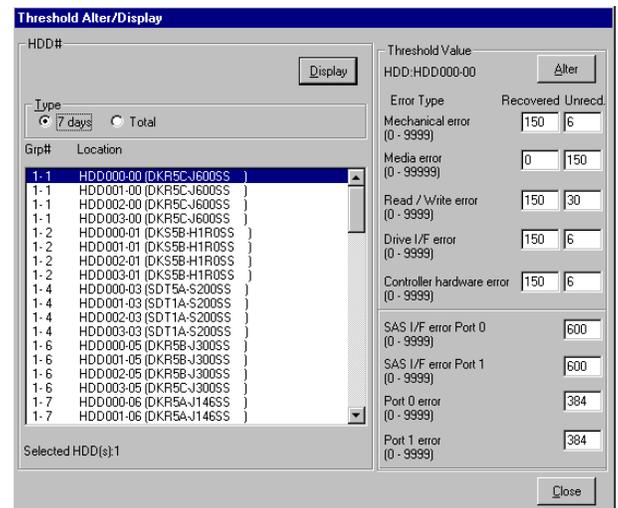
Unrecd: Threshold of errors not recoverable by retry.

Grp# : the parity group.

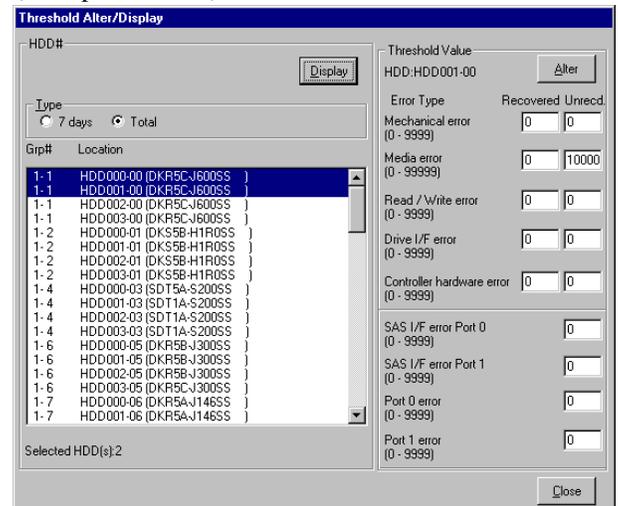
SPARE : spare HDD

RSRVD : reserved HDD with sparing

* : spare HDD in use.



(Multiple Selected)



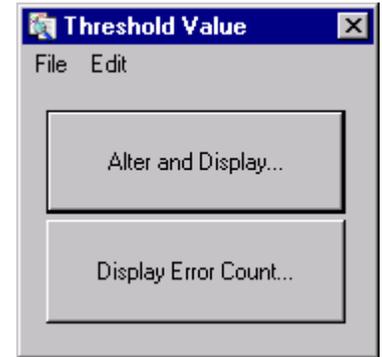
(3)

Select (CL) [Close] in the 'Threshold Alter/Display' dialog box and close the 'Information' window.

[2] Altering threshold value

(1)

Select (CL) [Alter and Display...] in the ‘Threshold Value’ window.



(2)

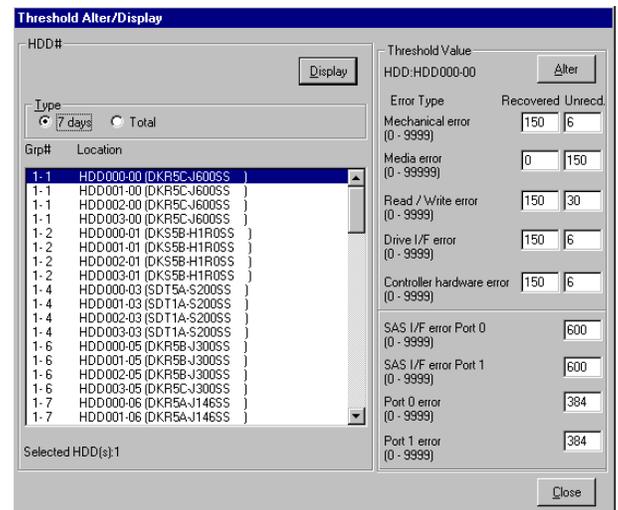
Select (CL) an HDD location from the “HDD#” list box in the ‘Threshold Alter/Display’ dialog box and select (CL) [Display]. In order to display threshold of another interval, select (CL) the interval from the “Type” list box.

Grp# : the parity group.

SPARE : spare HDD

RSRVD : reserved HDD with sparing

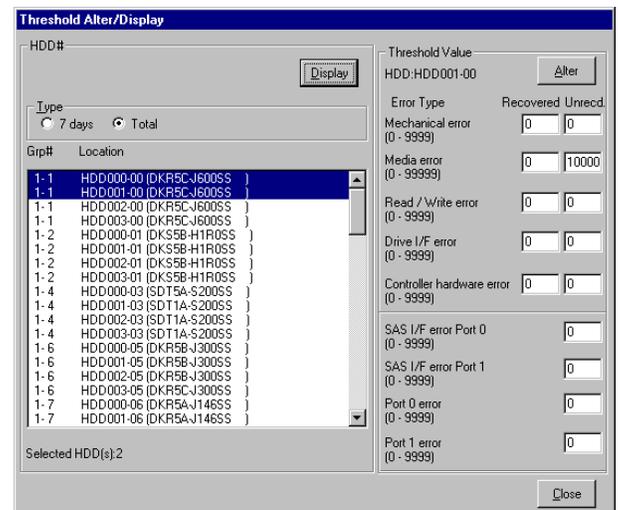
* : spare HDD in use.



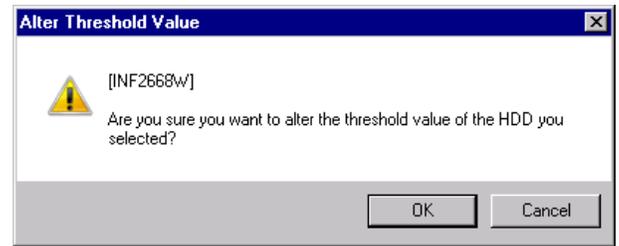
(3)

Alter a threshold value in the “Threshold Value” list box in the ‘Threshold Alter/Display’ dialog box. Then select (CL) [Alter].

Note: When multiple HDD locations are selected (CL) from the “HDD#” list box with the control key being hold down, the thresholds for all the selected HDDs are modified to the same value.



- (4) Select (CL) [OK] in the 'Alter Threshold Value' dialog box.

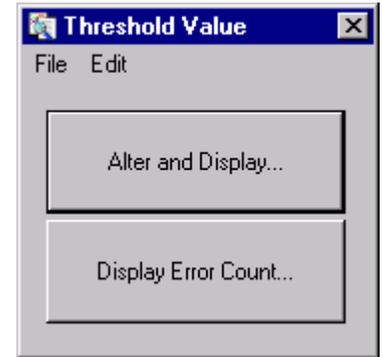


- (5) Select (CL) [Close] in the 'Threshold Alter/Display' dialog box and close the 'Information' window.

[3] Displaying an error count

(1)

Select (CL) [Display Error Count...] in the 'Threshold Value' Window.



(2)

Select (CL) an HDD location from the HDD Location drop-down list in the 'Threshold Counter Display' dialog box to display the error count for the HDD.

Grp# : the parity group.

SPARE : spare HDD

RSRVD : reserved HDD with sparing

* : spare HDD in use.

ID[Information]	Today	7 days	Total
Mechanical error (recovered)	00000000/(5,50)(1000,500)	00000000/150	-
Media error (recovered)	00000000/-	-	-
Read / Write error (recovered)	00000000/(2,50)(400,200)	00000000/150	-
Drive I/F error (recovered)	00000000/(5,50)(1000,500)	00000000/150	-
Controller hardware error (recovered)	00000000/(5,50)(1000,500)	00000000/150	-
Mechanical error (unrecovered)	00000000/(1,2)(20,10)	00000000/5	-
Media error (unrecovered)	00000000/(10,50)(1000,500)	00000000/150	00000000/10000
Read / Write error (unrecovered)	00000000/(1,10)(40,20)	00000000/30	-
Drive I/F error (unrecovered)	00000000/(1,2)(20,10)	00000000/5	-
Controller hardware error (unrecovered)	00000000/(1,2)(20,10)	00000000/5	-
SAS I/F error Port 0	00000000/(1,2)(20,10)	00000000/500	-
SAS I/F error Port 1	00000000/(1,2)(20,10)	00000000/500	-
Port 0 error	00000000/(128)(256)	00000000/384	-
Port 1 error	00000000/(128)(256)	00000000/384	-

Today:[Error Count / Threshold Value:Warning[Level1_Level2],Blockade[Level1_Level2]]
7 days.Total[Error Count / Threshold Value]

Note: Please execute this operation with P/S ON.

When with P/S OFF or the communication error occurs, the display of part Today is displayed by "Unknown".

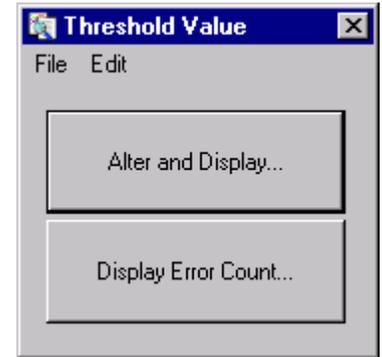
(3)

Select (CL) [Close] in the 'Threshold Counter Display' dialog box and close the 'Information' window.

[4] Resetting an error count

(1)

Select (CL) [Display Error Count...] in the ‘Threshold Value’ window.



(2)

Select (CL) the HDD location, for which you want to reset the error count, from the ‘HDD Location’ drop-down list in the ‘Threshold Counter Display’ dialog box and also select (CL) [Reset].

Grp# : the parity group.

SPARE : spare HDD

RSRVD : reserved HDD with sparing

* : spare HDD in use.

ID(Information)	Today	7 days	Total
Mechanical error (recovered)	00000000/5,50(1,000,500)	00000000/150	-
Media error (recovered)	00000000/-	-	-
Read / Write error (recovered)	00000000/2,50(400,200)	00000000/150	-
Drive I/F error (recovered)	00000000/5,50(1,000,500)	00000000/150	-
Controller hardware error (recovered)	00000000/5,50(1,000,500)	00000000/150	-
Mechanical error (unrecovered)	00000000/1,2(20,10)	00000000/5	-
Media error (unrecovered)	00000000/10,50(1,000,500)	00000000/150	00000000/10000
Read / Write error (unrecovered)	00000000/1,10(40,20)	00000000/30	-
Drive I/F error (unrecovered)	00000000/1,2(20,10)	00000000/5	-
Controller hardware error (unrecovered)	00000000/1,2(20,10)	00000000/5	-
SAS I/F error Port 0	00000000/1,2(20,10)	00000000/500	-
SAS I/F error Port 1	00000000/1,2(20,10)	00000000/500	-
Port 0 error	00000000/128(256)	00000000/384	-
Port 1 error	00000000/128(256)	00000000/384	-

Today: [Error Count / Threshold Value] Warning [Level1_Level2], Blockade [Level1_Level2]
7 days, Total: [Error Count / Threshold Value]

(3)

Select (CL) [OK] in the ‘Threshold Counter Reset’ dialog box.



(4)

After confirming that the error count has been reset in the 'Threshold Counter Display' dialog box select (CL) [Close] and close the 'Information' window.

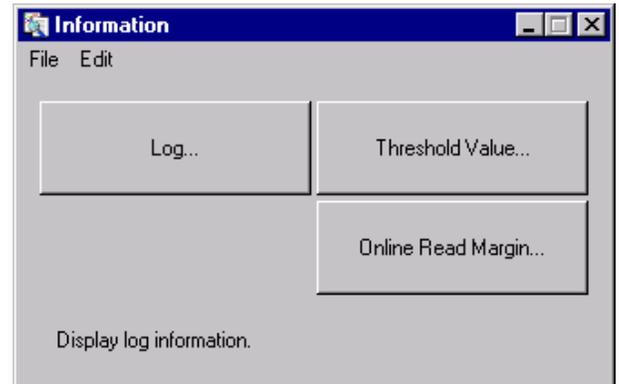
Threshold Counter Display			
HDD: Grp# Location			
1-1 HDD000-00 (DKS2F-K146SS)			
Close Reset			
ID(Information)	Today	7 days	Total
Mechanical error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Media error (recovered)	00000000/-	-	-
Read / Write error (recovered)	00000000/(2,50),(400,200)	00000000/150	-
Drive I/F error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Controller hardware error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Mechanical error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
Media error (unrecovered)	00000000/(10,50),(1000,500)	00000000/150	00000000/10000
Read / Write error (unrecovered)	00000000/(1,10),(40,20)	00000000/30	-
Drive I/F error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
Controller hardware error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
SAS I/F error Port 0	00000000/(1,2),(20,10)	00000000/600	-
SAS I/F error Port 1	00000000/(1,2),(20,10)	00000000/600	-
Port 0 error	00000000/(128),(256)	00000000/384	-
Port 1 error	00000000/(128),(256)	00000000/384	-

Today:[Error Count / Threshold Value/Warning(Level1_Level2),Blockade(Level1_Level2)]
7 days, Total:[Error Count / Threshold Value]

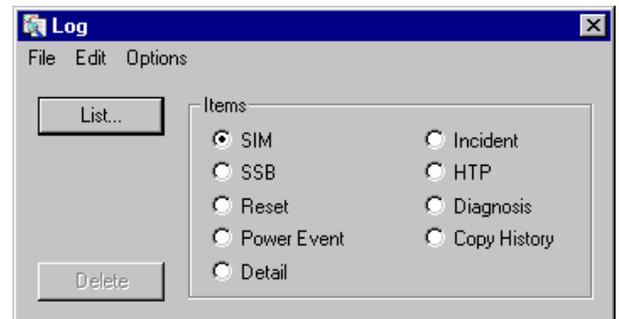
2.8 SIM Log Complete

- (1) Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Information].

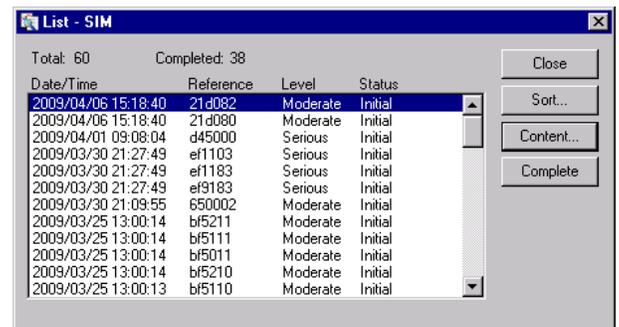
- (2) Select (CL) [Log...] in the 'Information' dialog box.



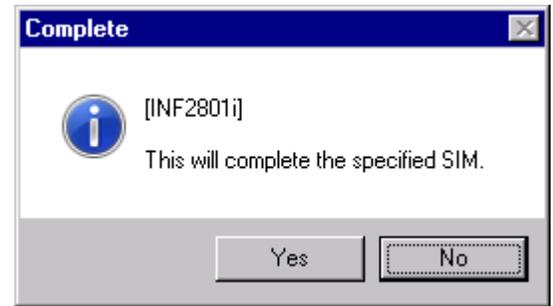
- (3) Select (CL) [SIM] and [List...] in the 'Log'.



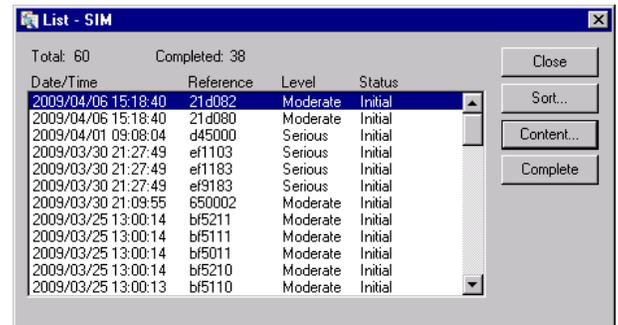
- (4) Select (CL) data to be completed in the 'List-SIM' dialog box and select (CL) [Complete].



- (5) Select (CL) [Yes] in the 'Complete' dialog box.



- (6) In the 'List-SIM' dialog box, make sure that "Completed" is displayed in the status.



- (7) Select (CL) [Close] in the 'List-SIM' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
Change the mode from [Modify Mode] to [View Mode].

Note1: Even if SIM Complete was performed, the MESSAGE of the Operator Panel may be on. Display all the SIMs to make sure they are completed. If not, please wait for 5 minutes and operate SIM Log Complete again.

Note2: Uncomplete SIM logs are recorded up to 256. When the SIM log is made when the number of uncomplete SIM logs is the maximum, the oldest uncomplete SIM log is automatically done complete.

2.9 Dump/AutoDump

Auto Dump is a useful function to provide the user with free selection of the dump data type and the output media so that the user can collect dump information.

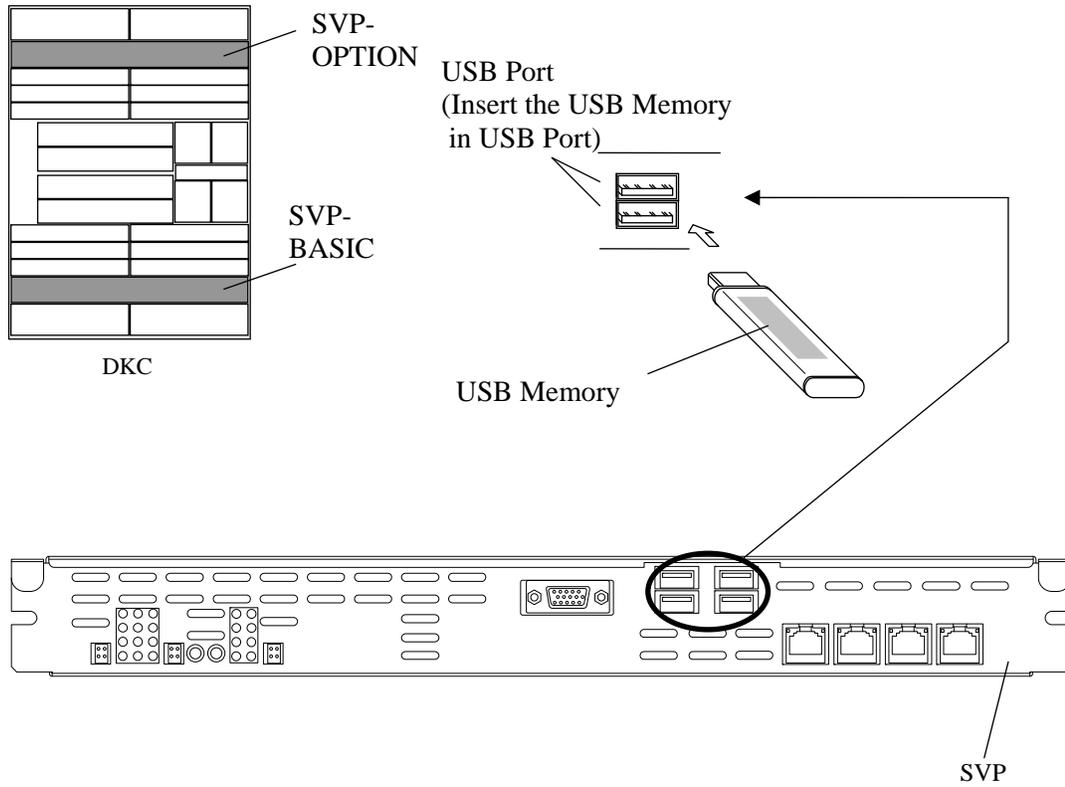
[1] Auto Dump

- (1) Connect the external USB memory.

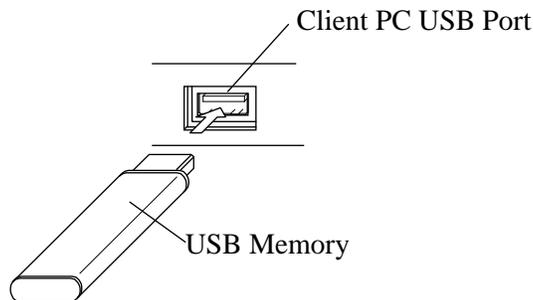
When information is collected to the external USB memory, connect the USB memory.

When information is not collected to the external USB memory, go to Step 2.

- ① Insert the USB memory in USB port on the SVP.
 - (a) When connecting to the SVP



- (b) When connecting to the Client PC

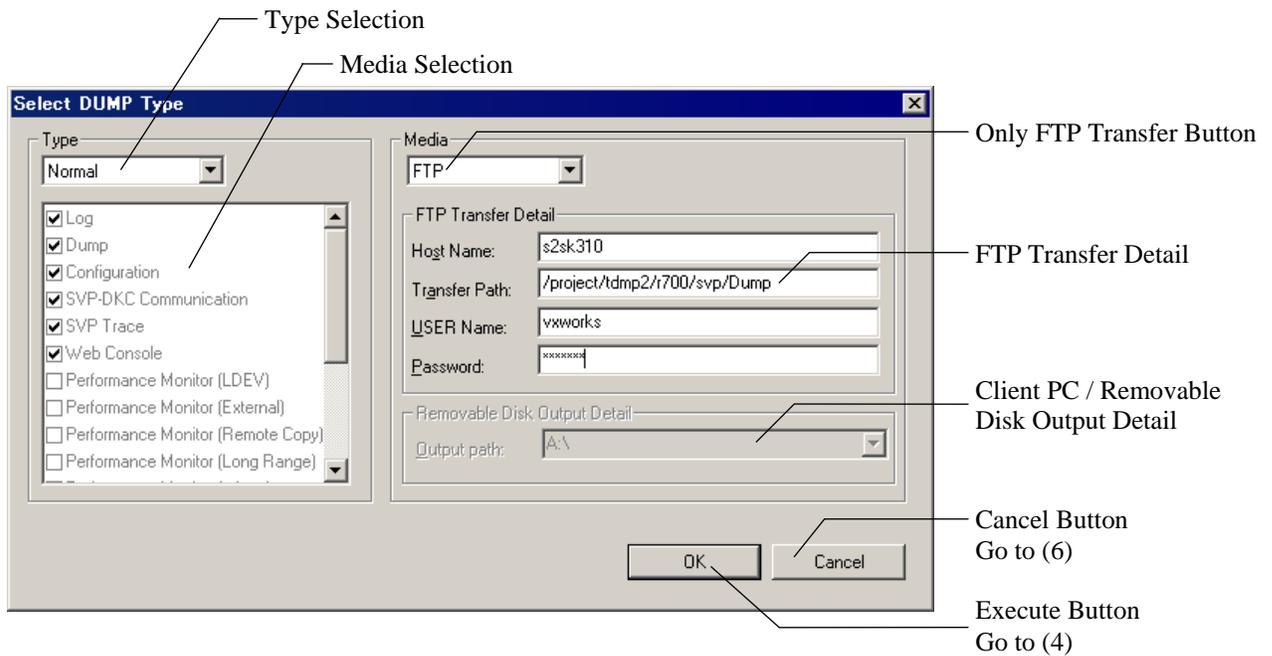


(2)

Select (CL) [AutoDump] button.

(3)

Select a dump type and a medium for output and make settings of the FTP transfer detail and the Client PC output detail, etc., and then select (CL) the [OK] button.



Note1: Please check that automatic connection of a local disk drive is set up in the case of connection to SVP. (At the time of SVP Connect Utility use, it is set up automatically.)

Note2: If you execute the TOD setting during collecting the Port Dump, the collecting the Port Dump may fail. Then, please execute collecting the Port Dump again.
And if you execute collecting Port Dump at about the time set by Synchronization Information function, the collecting the Port Dump may fail. Then, please execute collecting the Port Dump again.

<<Dump Type>>

Rapid:

This dump type is to get log information, SVP operation history, or configuration information. SVP will compress these files automatically. The compressed files will be stored in a few FDs.

This dump type will be used when the initial analysis of error is needed. In this case, you should gather the files used by this type and send it to the Center. After sending this files, you should gather dump data by selecting “Normal” type and send it to the Center to analyze more details.

Normal:

This dump type is to get dump data (you can get DUMP information of all adapters) adding to the log files used by “Rapid” type. SVP will compress these dump files automatically. You should get dump data by using this dump type after sending the “Rapid” type of data to Center.

Detail:

This type is to get monitor information adding to the dump files used by “Normal” type. (You can not get performance monitor information.) This data will be needed when the performance of the DKC wants to be checked. If there is no order to get these data, you do not need to use this type.

DUMP:

The dump of this type selects the processors and gets dumps from them individually.

Log:

The dump of this type collects log information only. The dump is used when it is required to send only the log information immediately to the Technical Support Division before making the initial analysis.

Monitor:

The dump of this type collects all monitor information and configuration information.

Config Backup:

The dump of this type collects the configuration information backup data stored in a hard disk of the SVP.

Obstacle Infor Dmp:

The dump of this type collects the obstacle PDEV Information and obstacle PCB Information data stored in a hard disk of the SVP.

Custom:

The dump of this type selects source items from the detailed information items and collects information from them.

When none of the detailed information items is checked off, the function of the dump of this type becomes the same as that of the dump whose type is No Gather.

No Gather:

The dump of this type only outputs “c:\dkc200\tmp\hdcp.tgz”, which has already been got, to a selected medium without compressing the data.

The dump of this type cannot collect information when the “c:\dkc200\tmp\hdcp.tgz” does not exist or an HDD is selected as a medium for the output.

<<Media>>

HDD:

SVP will store the compressed files to HDD. The file name is “c:\dkc200\tmp\hdcp.tgz”. If you can transfer the files to your center directly, this type will be useful.

(Notice: When operating the maintenance, SVP will sometimes delete the files. Do not use the maintenance operation before sending the files to your center.)

FTP:

SVP will store the compressed files to HDD. The file name is “c:\dkc200\tmp\hdcp.tgz”. After the compression processing end, Transfer processing of compression data is performed to the transfer place directory of a specification server inputted into FTP Transfer Detail.

Client PC:

The compressed data is output to the directory which has been entered in the Client PC Output Detail box of the PC remotely connected to the SVP.

When information is collected to the external USB memory of the Client PC, please select “Client PC” as a medium and specify the drive of the USB memory into Client PC Output Detail.

Removable Disk:

The compressed data is output to the directory which has been entered in the Removable Disk of SVP PC.

When information is collected to the external USB memory of the SVP PC, please select “Removable Disk” as a medium and specify the drive of the USB memory into Removable Disk Output Detail.

<<FTP Transfer Detail>>

Host Name: The host name of a FTP transfer place or an IP address is inputted. (*1)

Transfer Path: The directory of a FTP transfer place is inputted.

USER Name: The user name which login to a FTP server is inputted.

Password: The password which login to a FTP server is inputted.

<<Client PC Output Detail>>

Output path: Enter a directory, to which data of the PC remotely connected to the SVP is output, into this box. (A list of drives of the PC concerned is displayed as an initial display.)

<<Removable Disk>>

Output path: Enter a directory, to which data of the Removable Disk of the SVP PC is output, into this box. (A list of Removable Disk drives of the SVP PC is displayed as an initial display.)

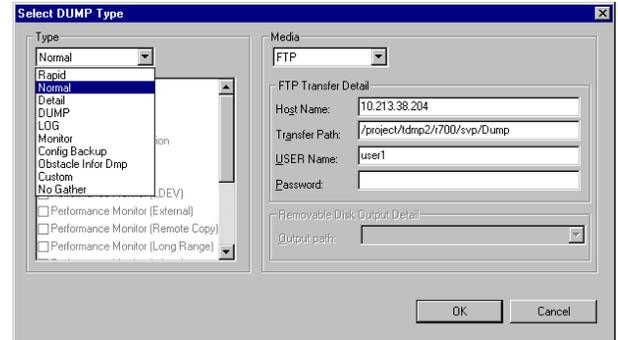
*1: It is in between “[” and “]” when you input the address of IPv6.
(Eg.) [0000:0000:0000:0000:0000:0000:0000:0000]

(4) Doing the dump and data compression

A dump is done when a dump type is selected out of “Normal”, “Detail”, “DUMP”, and “Custom” (in the case where “Dump” has been selected from the detailed information items). Go to Step (4-1-1).

When “No Gather” is selected as a dump type, a message, “Do you want to output what has already been got without collecting dump, log, and operation information and SVP operation history?” is displayed. A selection (CL) of the [OK] button in response to the message makes an output to the selected medium.

Go to Step (5).

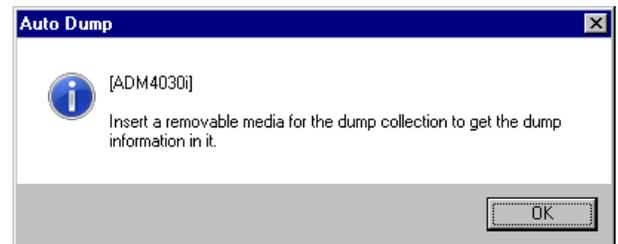


When a dump type other than the above is selected, a data compression is done. Go to Step (4-2).

The following messages are displayed before doing the dump and data compression when a Media is select out of “Client PC”, and “Removable Disk”.

“Insert a removable media for the dump collection to get the dump information in it.” is displayed.

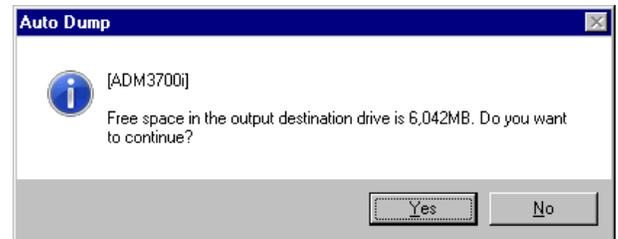
When you output to a removable media, insert the removable media and select (CL) the [OK] button.



“Free space in the output destination drive is XXXMB. Do you want to continue?” is displayed.

Select (CL) the [Yes] button.

(XXX is free space in the output destination drive.)

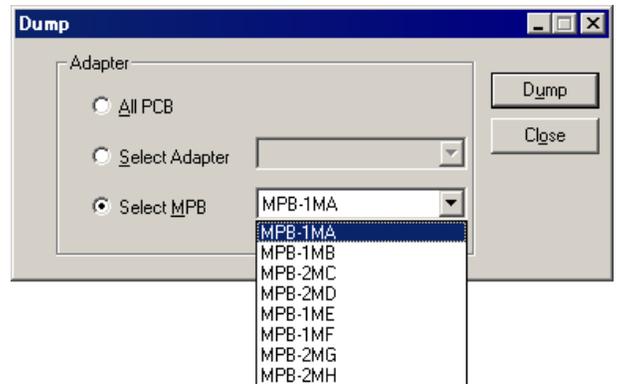
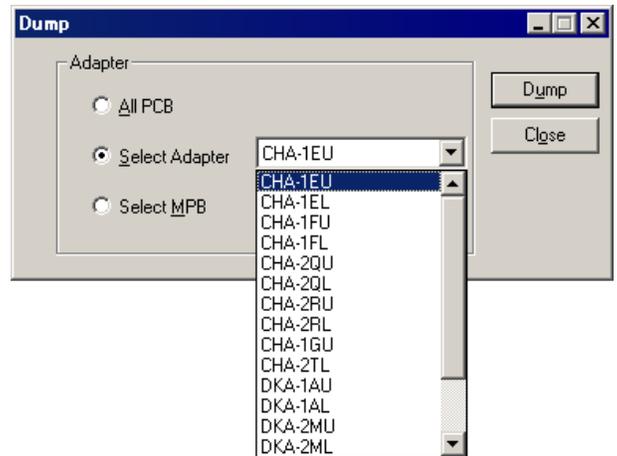


(4-1-1)

When “DUMP” is selected as a dump type, select (CL) [Select Adapter] or [Select MPB], and select (CL) “Location No.” of the processor and select (CL) the [DUMP] button.

When [All PCB] is selected, dumps are got from all the processors.

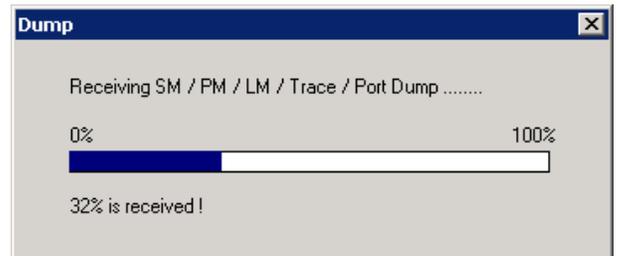
When a dump type other than the above is selected, go to Step (4-1-2).



(4-1-2)

A box indicating progress of the dump is displayed.

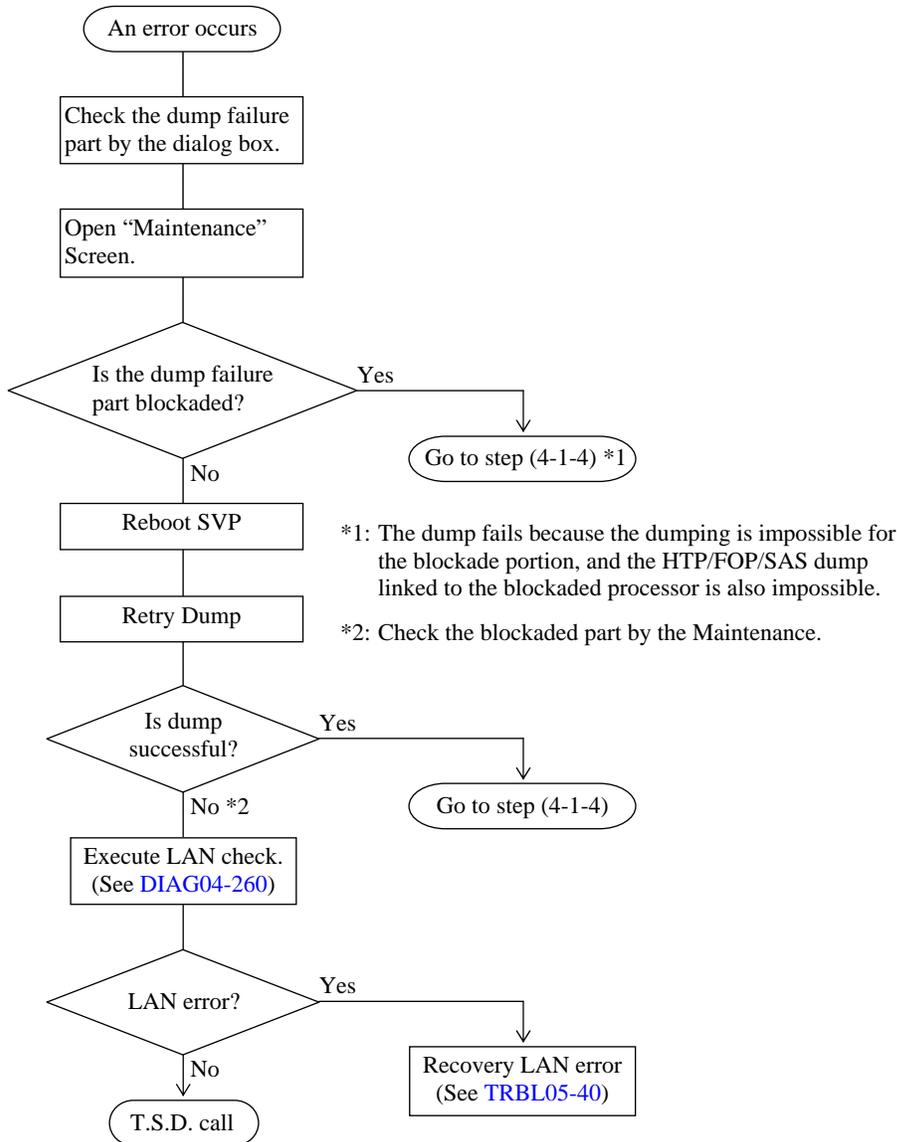
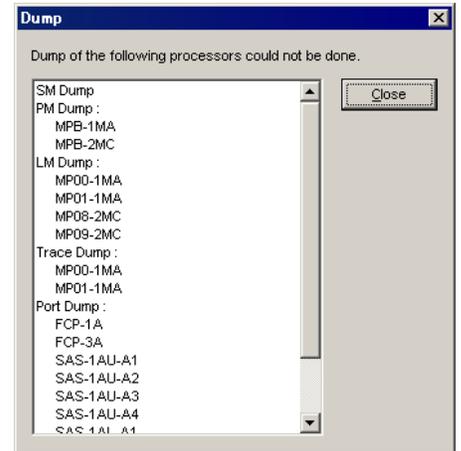
When the dump terminates normally, go to step (4-1-4).



(4-1-3)

When an error occurs, the following dialog box is displayed.

Perform the following procedure and retry the dump.

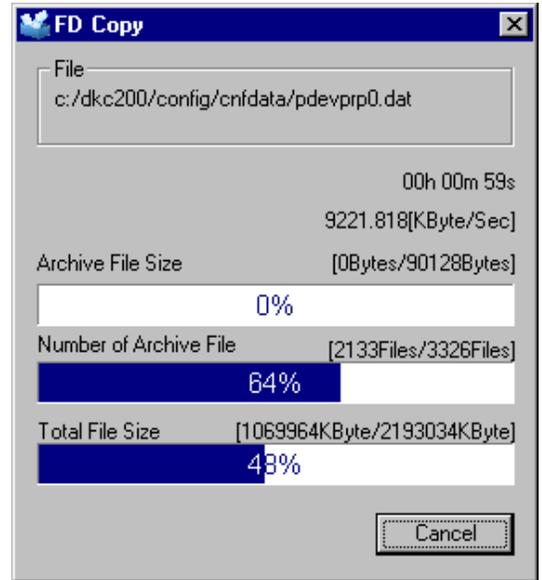


(4-1-4)

A data compression is done.
Go to Step (4-2).

(4-2) Data compression

The 'FD Copy' window is displayed and a data compression is done.



(5) Output to a selected medium.

An output is done to a selected medium

When an HDD was selected, go to Step (5-1-1).

When an FTP was selected, go to Step (5-2-1).

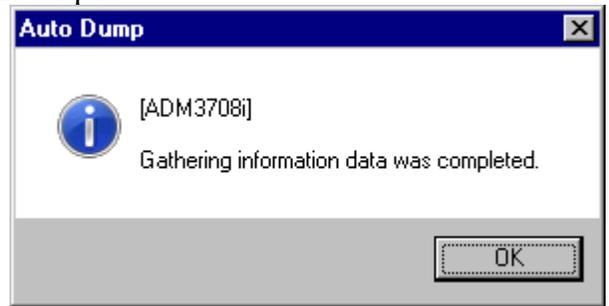
When a Client PC was selected, go to Step (5-3-1).

When a Removable Disk was selected, go to Step (5-4-1).

When Client PC or Removable Disk was selected and output to FDD, go to Step (5-5-1).

(5-1-1) When the HDD is selected as a medium for the output

A message, “Gathering information data was completed.” is displayed. Select (CL) the [OK] button.
Go to Step (6).



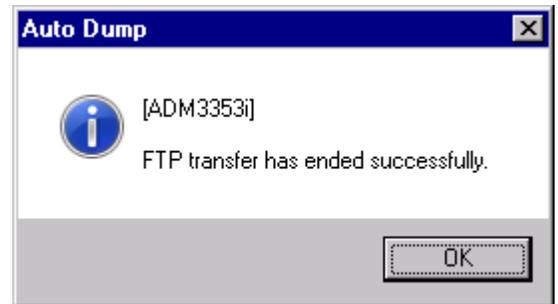
(5-2-1) When the FTP is selected as a medium for the output

When the [FTP] was selected as the media for the output, a transfer of the compressed data is started.



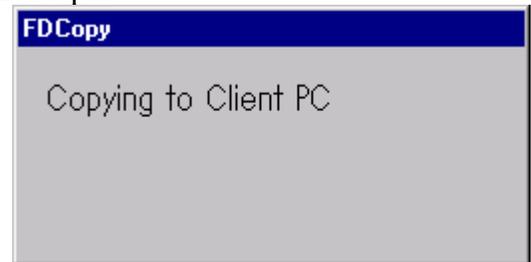
(5-2-2)

After the data transfer is completed, a message, “FTP transfer has ended successfully.” is displayed.
Select (CL) the [OK] button.
Go to Step (6).



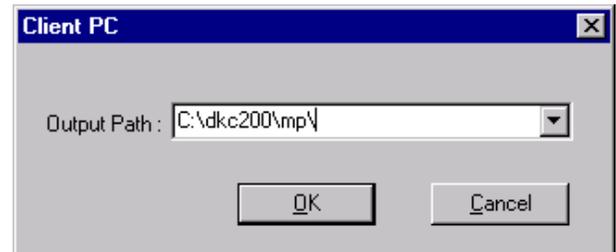
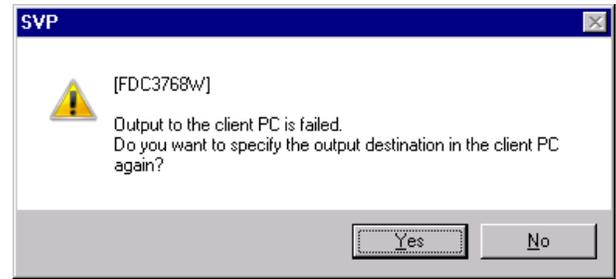
(5-3-1) When the Client PC is selected as an medium for the output

“Copying to Client PC.” is displayed and a copying to the Client PC is done.



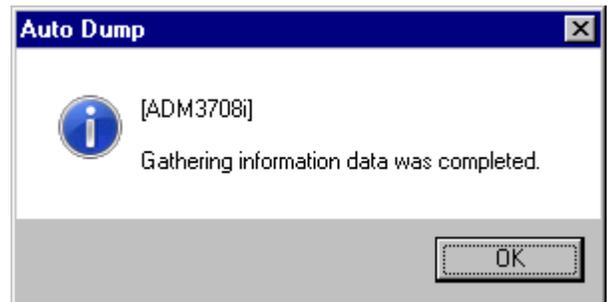
When the copying fails, a message, “Output to the client PC is failed. Do you want to specify the output destination in the client PC again?” is displayed.

Select (CL) the [Yes] button and reset the directory for the output in the ‘Client PC’ window.



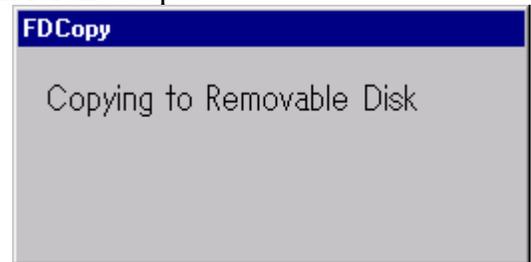
(5-3-2)

A message, “Gathering information data was completed.” is displayed. Select (CL) the [OK] button. Go to Step (6).



(5-4-1) When the Removable Disk is selected as an medium for the output

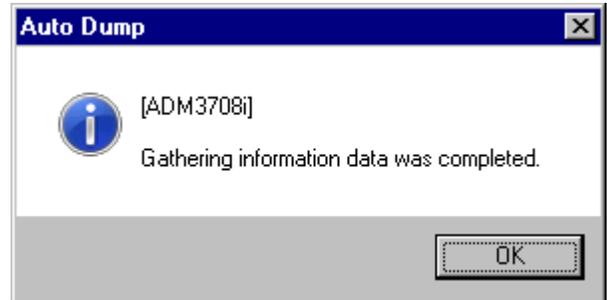
“Copying to Removable Disk” is displayed and a copying to the Removable Disk is done.



(5-4-2)

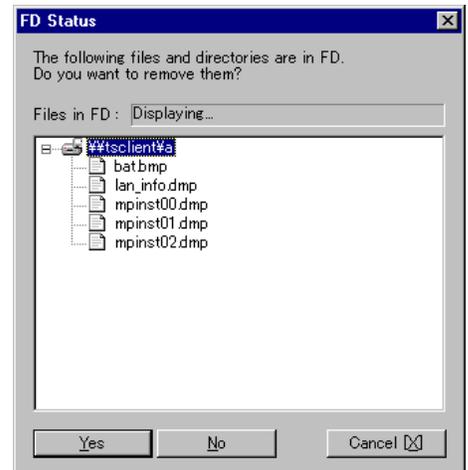
A message, “Gathering information data was completed.” is displayed. Select (CL) the [OK] button.

When information is collected to the USB memory of the SVP PC, go to Step (6).



(5-5-1)

If the file is not contained in the FD when the FD is checked through the 'FD Status' dialog box, go to Step (5-5-2). When the file is contained in the FD, a message, "The following files and directories are in FD. Do you want to remove them?" is displayed. When you want to delete the files, select (CL) the [Yes] button and go to Step (5-5-2). If you want to leave the files, select (CL) the [No] button and go to Step (5-5-2).



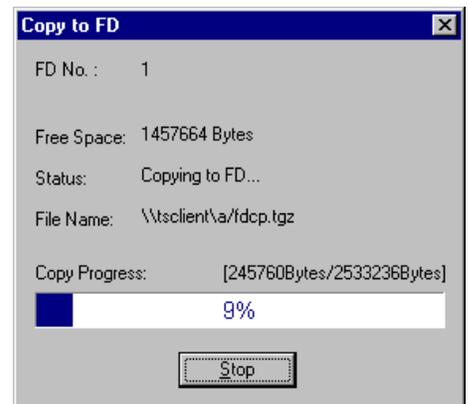
When an error occurs, a message, "Could not access FD. FD is not DOS formatted. FD is not inserted. FD is write protected." is displayed.

Check the matters displayed and then select (CL) the [Retry] button. Return to Step (5-5-1).



(5-5-2)

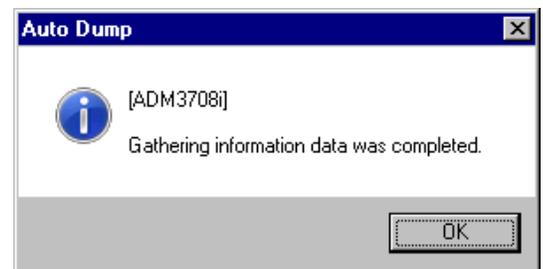
"Copying to FD..." is displayed and the copying is done. (If a capacity of the FD becomes insufficient, return to Step (5-5-1) and replace the FD with a new one.)



(5-5-3)

A message, "Gathering information data was completed." is displayed. Select (CL) the [OK] button.

Go to Step (6).



(6)

Gathering Information Local Mode if it is enabled. A message, “Do you want to release Gathering Information Local mode?” is displayed.

When you want to release the Gathering Information Local mode, select (CL) the [Yes] button.



When the Client PC is selected as a medium for the output, and When information is collected to the USB memory of Client PC, go to Step (6-2).

When the Removable Disk is selected as a medium for the output, and When information is collected to the USB memory of the SVP PC, go to Step (6-1).

(6-1) Remove the USB memory from SVP PC

Select (CL) the “Safely Remove Hardware” icon in the task tray.



Since the menu bar is displayed, select (CL) “Safely remove USB Mass Storage Device - Drive (X:).”



*1: “X:” is a drive letter of the USB memory.

*2: When a device other than the USB memory is selected, the other devices will stop. If a wrong selection is made, insert the device that has been selected by mistake again.

Remove the USB memory from the USB port of the SVP.

(6-2) Remove the USB memory from Client PC

When the collection of information using AutoDump is completed, remove the USB memory from the Client PC.

How to remove the USB memory from Client PC changes with Client PCs to be used.

Please perform removal processing suitable at each Client PC.

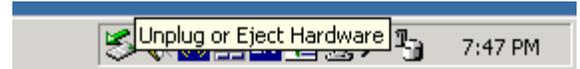
example: In the case of Client PC which sets Windows XP (the English version) or Windows 2000 (the English version) to OS

1. When the collection of information using AutoDump is completed, select (CL) the (Windows XP)
“Safely Remove Hardware”
(Windows 2000)
“Unplug or Eject Hardware”
icon in the task tray.

(Windows XP)



(Windows 2000)

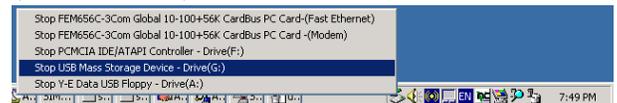


2. Since the menu bar is displayed, select(CL) the (Windows XP)
“Safely remove USB Mass Storage Device– Drive(X:)”
(Windows 2000)
“Stop USB Mass Storage Device– Drive(X:)”.

(Windows XP)



(Windows 2000)



*1: “X:” is a drive letter of the USB memory.

*2: When a device other than the USB memory is selected, the other devices will stop. If a wrong selection is made, insert the device, which has been selected by mistake again.

3. (In the case of Client PC which sets Windows 2000 to OS)

Confirm that the following message appears, and then select(CL) [OK].



4. Remove the USB memory from the USB port of the Client PC.

[2] SSVP DUMP

(1)

Please set the maintenance jumper in JP4 of DKC PANEL, and remove the jumper.

(Refer to [LOC06-40](#))

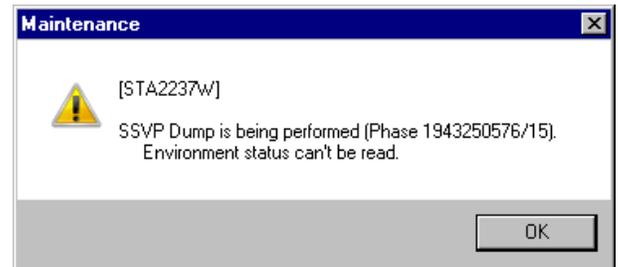
The “SSVP DUMP” Starts.

When the SVP High Reliability Kit has been installed and an SVP fail over (SIM=7FF3XX) is detected, at first, take actions to resolve the failure (SIM=7FF3XX).

(2)

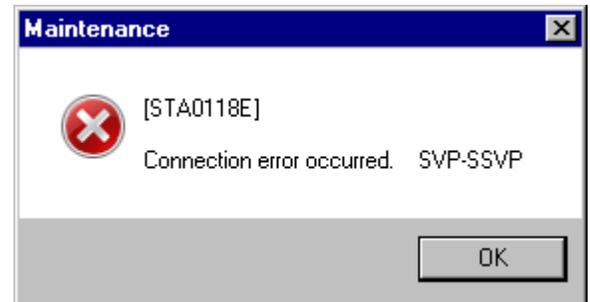
Open the Maintenance window (see SVP section).

Check that the message “SSVP Dump is being performed (XXXX). Environment status can't be read.” is displayed and select (CL) [OK].



If the message “Connection error occurred. SVP-SSVP” is displayed, check the wiring connection and select (CL) [OK] to start from step (1) again.

If step (1) is performed three times and the same message “Connection error occurred. SVP-SSVP” is displayed, replace SSVP (See [REP01-240](#)).



(3)

The SSVP ALARM lamp blinks after completion of dump. (Refer to [LOC03-120](#))
(For about 10 minutes after performing step (1))

(4)

Copy the dump file to FD.

(Refer to [SVP02-670](#) [1] Auto Dump)

(5)

Please set the maintenance jumper in JP3 of DKC PANEL, and remove the jumper.

(Refer to [LOC06-40](#))

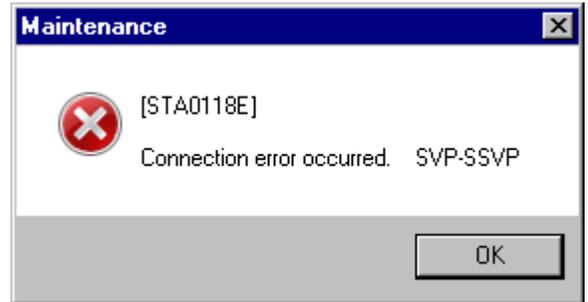
SSVP is reset.

(6)

Open the Maintenance window.

If the message “Connection error occurred. SVP-SSVP” is displayed, select (CL) [OK] to perform step (5) again.

If step (5) is performed three times and the same message “Connection error occurred. SVP-SSVP” is displayed, replace SSVP (See [REP01-300](#)).



(7)

If the message shown at step (6) is not displayed, the SSVP IMPL is completed.

[3] FMD Dump

(1) Connect the external USB memory

When information is collected to the external USB memory, connect the USB memory.

(Refer to [SVP02-680](#))

When information is not collected to the external USB memory, go to Step (2).

(2) <Initial screen>

Display the SVP initial screen from SVP Section “1. How to Operate the SVP (PC)” ([SVP01-10](#)).

For CE Laptop PC, please refer to 3.1.5.3.

- “3.1.5.3 Attachment/Removal Procedure of CE Laptop PC” ([INST03-01-120](#))

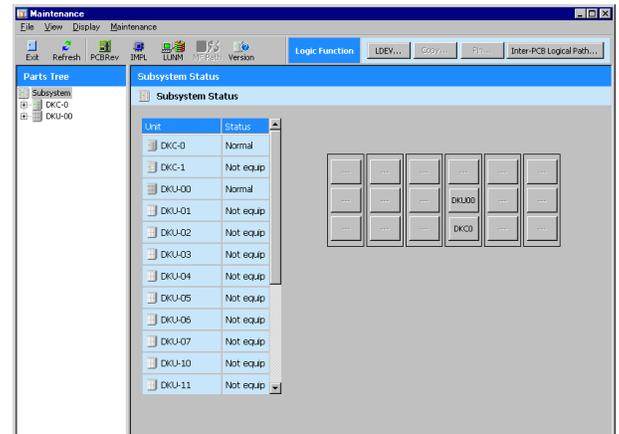
(3) <Maintenance Other Components>

Select the [Maintenance Components]-[Maintenance Other Components] from Action Menu.

And open the ‘Maintenance Other Components’ window.

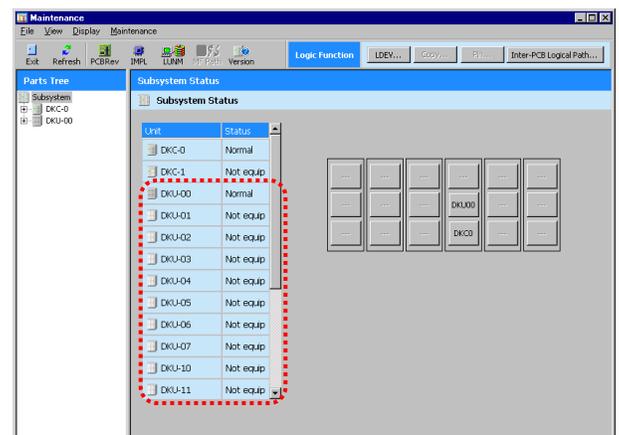
(4) <Maintenance window>

The ‘Maintenance’ window is displayed.



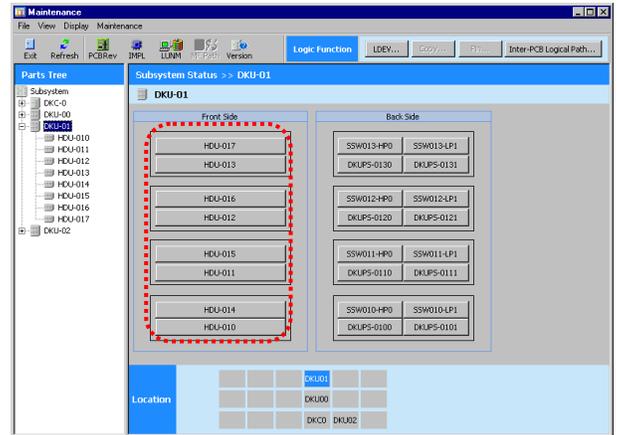
(5) <Maintenance window>

Select (CL) the DKU information [DKU-nn] of the DKU which installs the HDD to be replaced in the ‘Maintenance’ window.



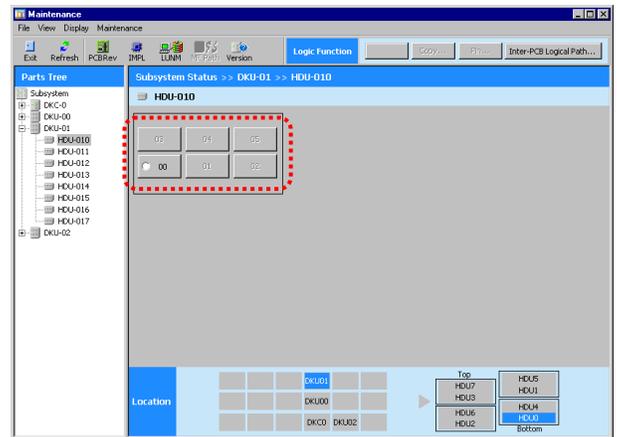
(6) <Select HDU>

Select (CL) the HDU information [HDU-*nnn*] of the HDU which installs the HDD to be replaced.



(7) <Select HDU>

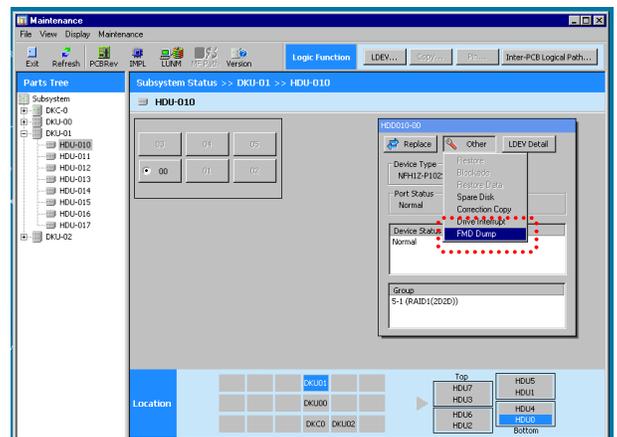
Check and select (CL) [*nn*] to be replaced.



(8)

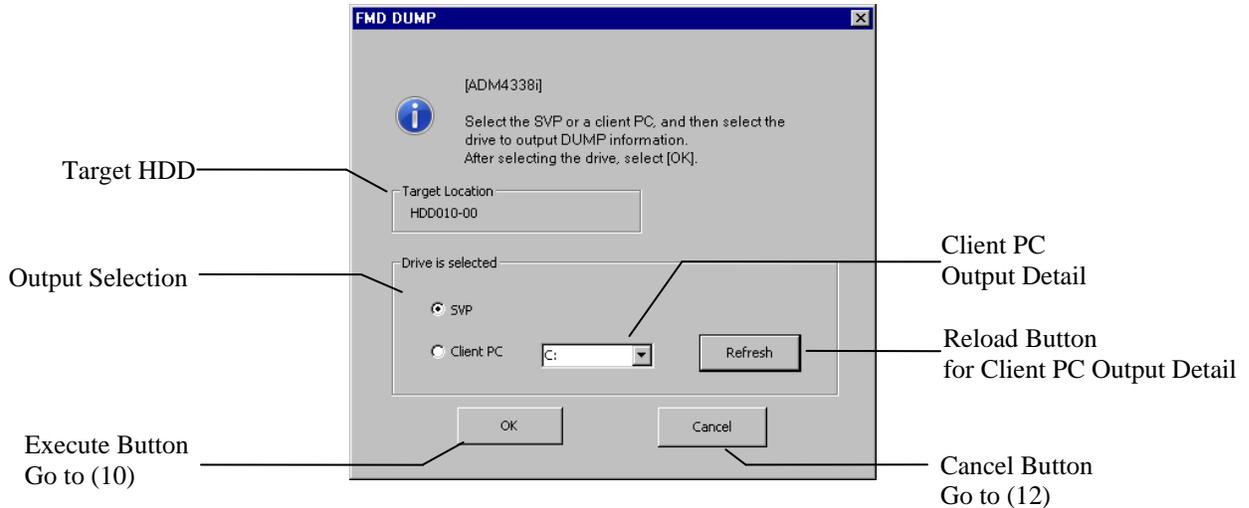
Make sure that the “Device Status” is [Normal].

Select (CL) [Other]-[FMD Dump].



(9)

A medium for output and the Client PC output detail, etc., and then select (CL) the [OK] button.



Note: Please check that automatic connection of a local disk drive is set up in the case of connection to SVP. (At the time of SVP Connect Utility use, it is set up automatically.)

<<Output Detail>>

SVP

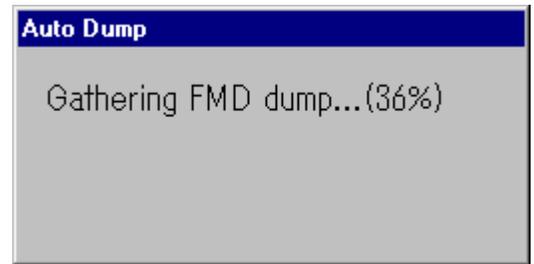
Dump data is output to “C:\dkc200\others” directory of SVP.

Client PC

Dump data is output to the directory which has been entered in the Client PC Output Detail box of the PC remotely connected to the SVP.

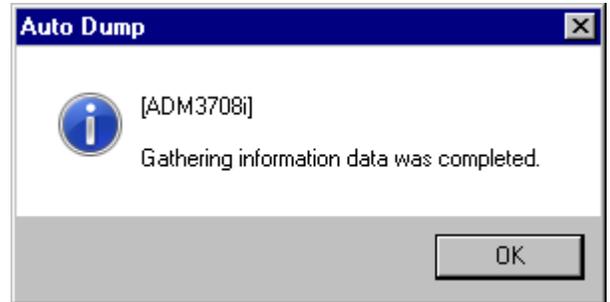
(10) FMD Dump Start

When select (CL) the [OK] button, FMD Dump start.



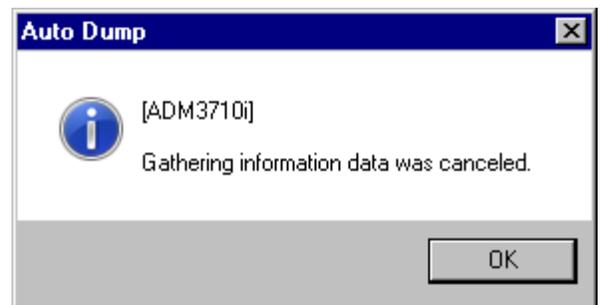
(11)

A message, "Gathering information data was completed." is displayed. Select (CL) the [OK] button.
Go to Step (13).



(12)

A message, "Gathering information data was canceled." is displayed. Select (CL) the [OK] button.



(13) <Maintenance window>

Close the 'Maintenance' window if there is no problem.

When the Client PC is selected as a medium for the output, and When information is collected to the USB memory of Client PC, remove the USB memory. (Refer to [SVP02-880](#))

2.10 Logical Device Maintenance

2.10.1 Format of Logical Device

Notice:

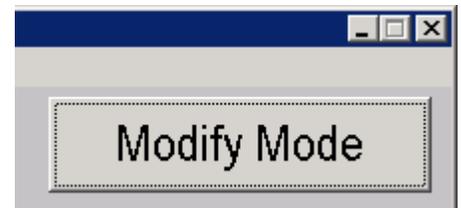
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>

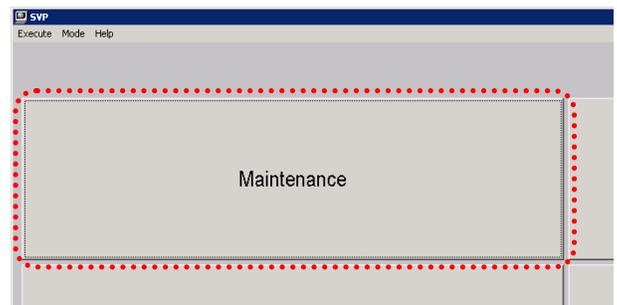
Close each menu of the starting SVP entirely.

(2) <Start>

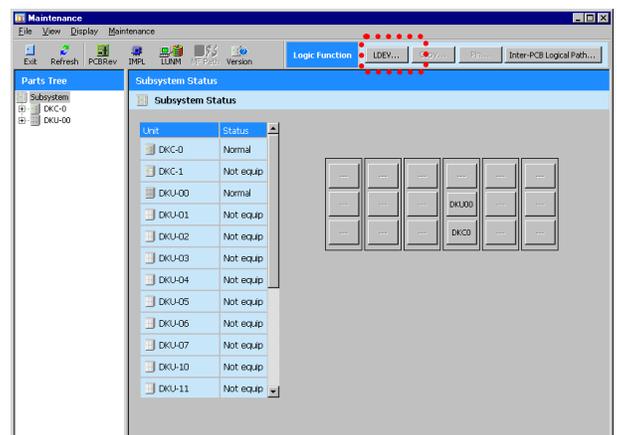
Change the mode to [Modify Mode].



Select (CL) the [Maintenance] in the 'SVP' window.



Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.



(3) <Selection of Logical Device>

Notice:

Be careful enough not to make a mistake in selecting a device.

(3)-1 Case of selection Parity Group

Select (CL) the target group from the list in the right of the 'Logical Device' window.

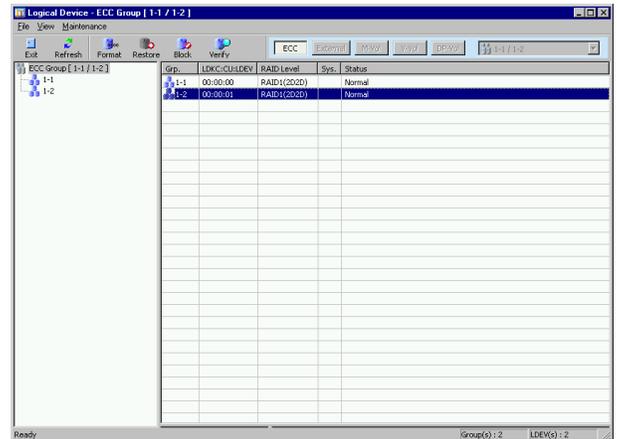
Notes: In the case of following;

Select (CL) devices (LDEVs) because the selection of parity group are not able to execute format.

Select (CL) the target device (or group) from the list in the right of the 'Logical Device' window.

- Normal devices (LDEV) are included in the specified parity group.
- All devices (LDEV) of the LUSE composition are not included in the specified parity group.

Please confirm devices (LDEV) of the LUSE composition by "3.10 LUN Management" (SVP03-530) of the SVP SECTION or "5.2.4 Refer Configuration" (INST05-510) of the INSTALLATION SECTION.



(3)-2 Case of selection Device (LDEV)

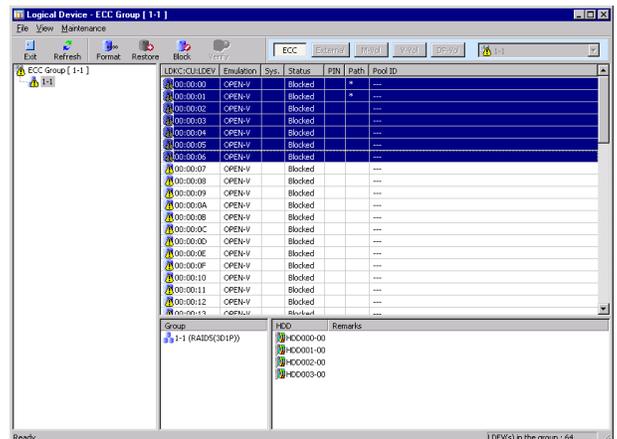
Select (CL) the parity group included the target devices from the list in the right of the 'Logical Device' window.

And select (CL) the target devices (LDEV) in the right list of the screen.

Notes: For all devices that the devices

(LDEV) which was selected constitutes LUSE in the case of a top device (LDEV) of LUSE (refer to "Table 3.6-7 List of Device information" (SVP03-350)), it is formatted. In addition, the state of

devices (LDEV) constituting LUSE may be mixed when selected devices (LDEV) are except the top of LUSE without including top device (LDEV) of LUSE. Please be careful not to use it while a state of LUSE is mixed to see it as an available device from a host when top device of LUSE is normal.



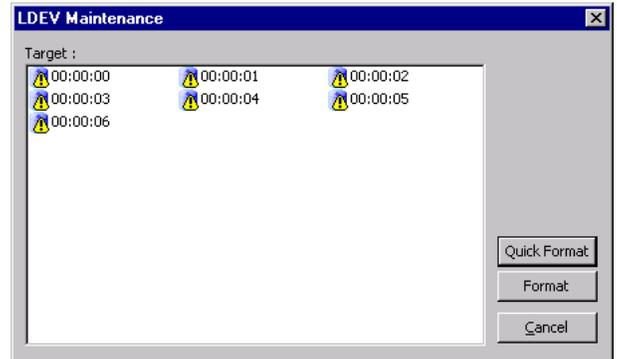
(4) <Execution>

Select (CL) [Format] on the tool bar in the 'Logical Device' window.



(5) <Check>

Check the device (or group) to be formatted in the 'LDEV Maintenance' window, and select (CL) [Format].



(6) <Password Input>

Notice:

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

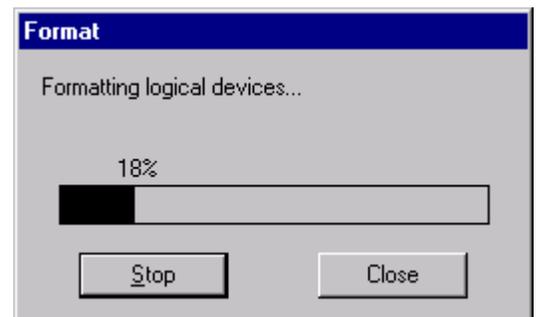
Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Data in the specified logical device may be lost due to this operation. You need the password to continue.”



(7) <Progress Check>

The progress in the format processing is displayed.



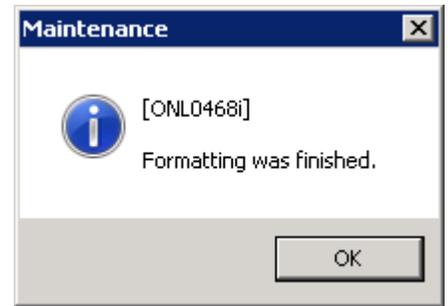
(8) <Completion Check>

When the format is completed, the following message is displayed. Select (CL) [OK].

“Formatting was finished.”

Note: When executing it by either following specification, if the SATA drive is included in the format target, SIM = 0x4100XX is output at the end.

- It is specified in ECC Group units.
- When System Option 269 is set, all LDEVs in ECC Group are specified.



(9) <Post-processing>

Close the 'Logical Device' window.

Close the 'Maintenance' window.

Change the mode to [View Mode].

2.10.2 Block Logical Device

Notice:

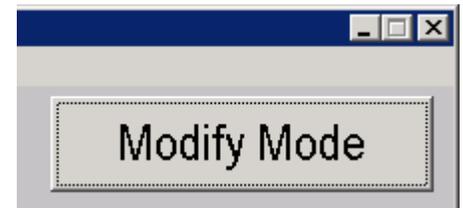
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>

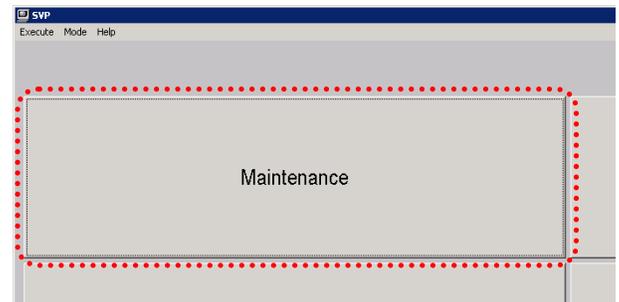
Close each menu of the starting SVP entirely.

(2) <Start>

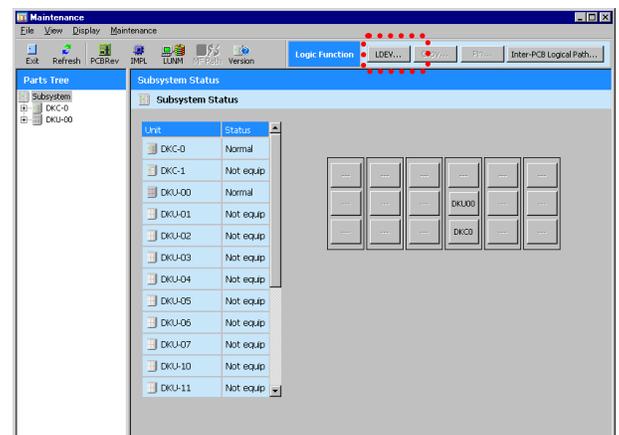
Change the mode to [Modify Mode].



Select (CL) the [Maintenance] in the 'SVP' window.



Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.



(3) <Selection of Logical Device>

Notice:

Be careful enough not to make a mistake in selecting a device.

(3)-1 Case of selection Parity Group

Select (CL) the target group from the list in the right of the 'Logical Device' window.

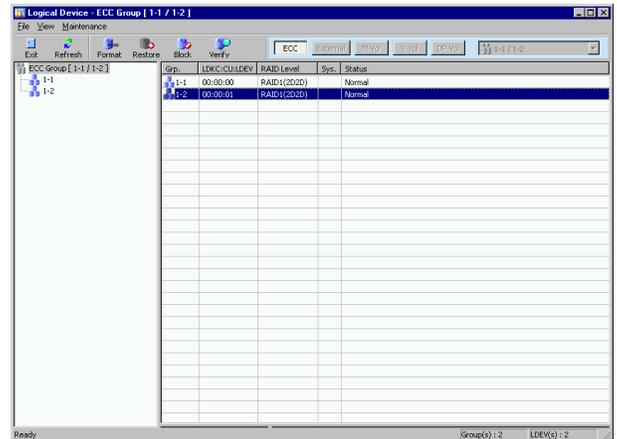
Notes: In the case of following;

Select (CL) devices (LDEVs) because the selection of parity group are not able to execute block.

Select (CL) the target device (or group) from the list in the right of the 'Logical Device' window.

- Blocked devices (LDEV) are included in the specified parity group.
- All devices (LDEV) of the LUSE composition are not included in the specified parity group.

Please confirm devices (LDEV) of the LUSE composition by "3.10 LUN Management" (SVP03-530) of the SVP SECTION or "5.2.4 Refer Configuration" (INST05-510) of the INSTALLATION SECTION.



(3)-2 Case of selection Device (LDEV)

Select (CL) the parity group included the target devices from the list in the right of the 'Logical Device' window.

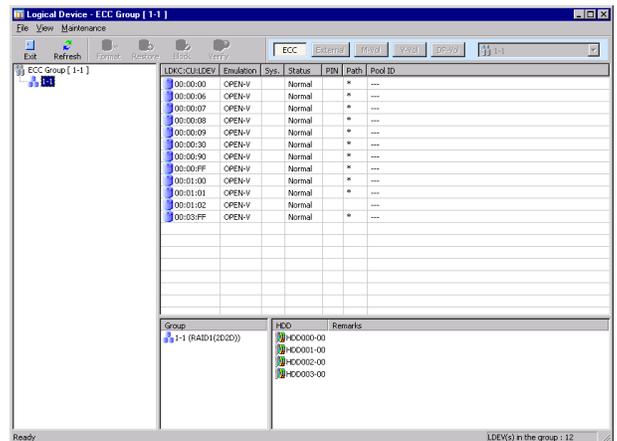
And select (CL) the target devices (LDEV) in the right list of the screen.

Notes: For all devices that the devices

(LDEV) which was selected constitutes LUSE in the case of a top device

(LDEV) of LUSE (refer to "Table 3.6-7 List of Device information" (SVP03-350)), it is blocked. In addition, the state of

devices (LDEV) constituting LUSE may be mixed when selected devices (LDEV) are except the top of LUSE without including top device (LDEV) of LUSE. Please be careful not to use it while a state of LUSE is mixed to see it as an available device from a host when top device of LUSE is normal.



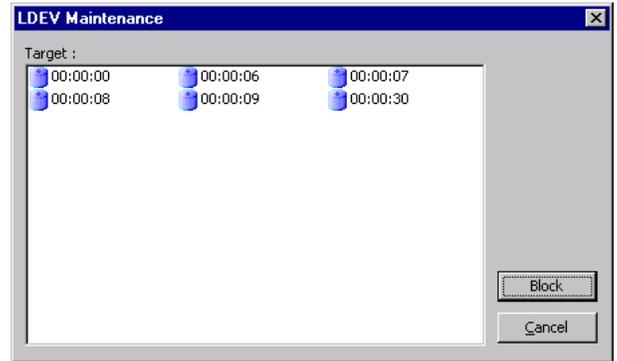
(4) <Execution>

Select (CL) [Block] on the tool bar in the 'Logical Device' window.



(5) <Check>

Check the device (or group) to be blocked in the 'LDEV Maintenance' window, and select (CL) [Block].



(6) <Password Input>

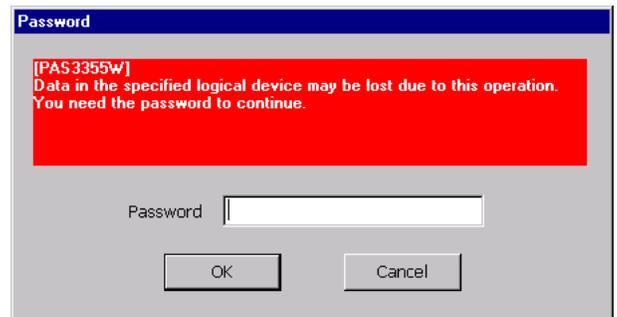
Notice:

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Data in the specified logical device may be lost due to this operation.

You need the password to continue.”



(7) <Processing Wait>

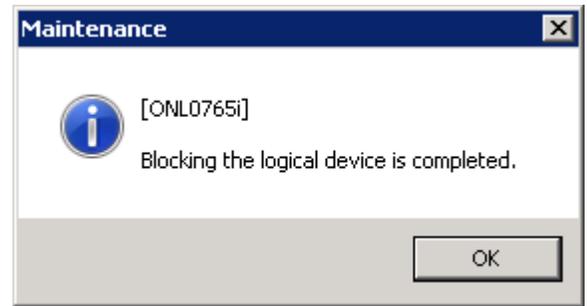
The following message is displayed.

“Blocking the logical device...”

(8) <Completion Check>

When the blockade is completed, the following message is displayed. Select (CL) [OK].

“Blocking the logical device is completed.”



(9) <Post-processing>

Close the 'Logical Device' window.

Close the 'Maintenance' window.

Change the mode to [View Mode].

2.10.3 Restore the Logical Device

Notice:

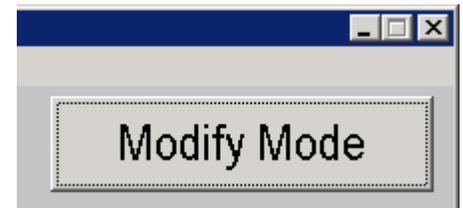
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>

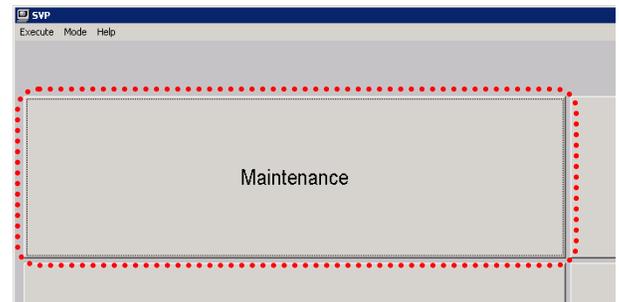
Close each menu of the starting SVP entirely.

(2) <Start>

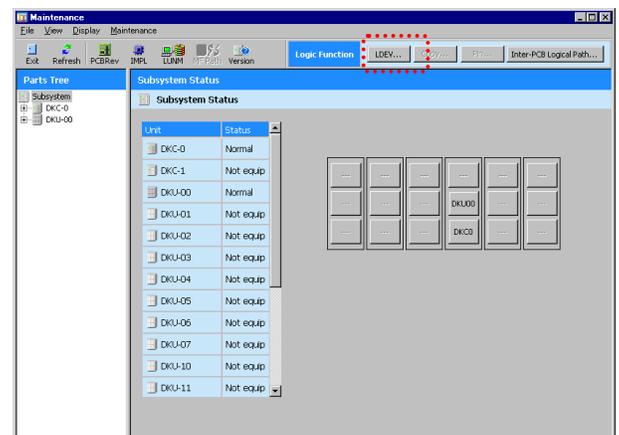
Change the mode to [Modify Mode].



Select (CL) the [Maintenance] in the 'SVP' window.



Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.



(3) <Selection of Logical Device>

Notice:

Be careful enough not to make a mistake in selecting a device.

(3)-1 Case of selection Parity Group

Select (CL) the target group from the list in the right of the 'Logical Device' window.

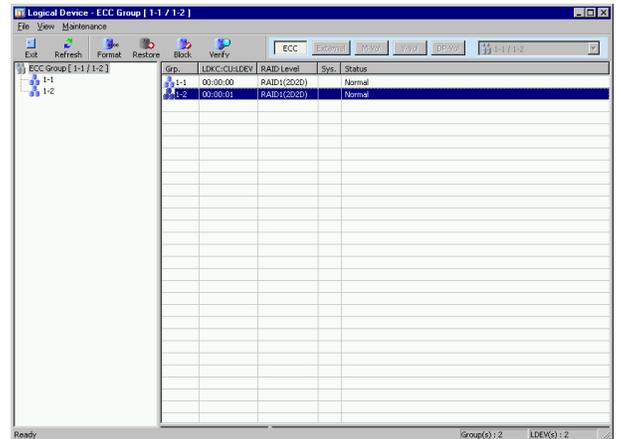
Notes: In the case of following;

Select (CL) devices (LDEVs) because the selection of parity group are not able to execute restore.

Select (CL) the target device (or group) from the list in the right of the 'Logical Device' window.

- Normal devices (LDEV) are included in the specified parity group.
- All devices (LDEV) of the LUSE composition are not included in the specified parity group.

Please confirm devices (LDEV) of the LUSE composition by "3.10 LUN Management" (SVP03-530) of the SVP SECTION or "5.2.4 Refer Configuration" (INST05-510) of the INSTALLATION SECTION.



(3)-2 Case of selection Device (LDEV)

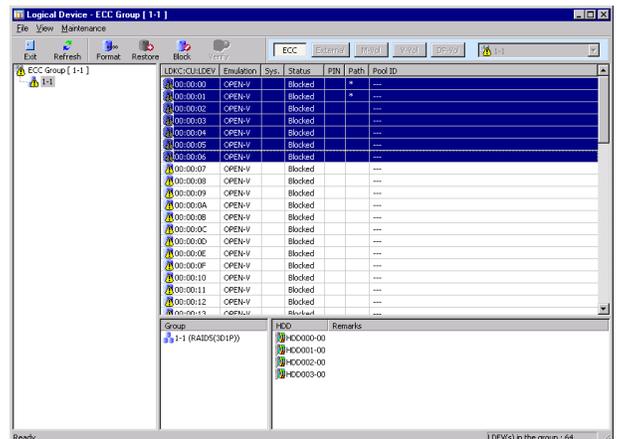
Select (CL) the parity group included the target devices from the list in the right of the 'Logical Device' window.

And select (CL) the target devices (LDEV) in the right list of the screen.

Notes: For all devices that the devices

(LDEV) which was selected constitutes LUSE in the case of a top device (LDEV) of LUSE (refer to "Table 3.6-7 List of Device information" (SVP03-350)), it is recovered. In addition, the state of

devices (LDEV) constituting LUSE may be mixed when selected devices (LDEV) are except the top of LUSE without including top device (LDEV) of LUSE. Please be careful not to use it while a state of LUSE is mixed to see it as an available device from a host when top device of LUSE is normal.



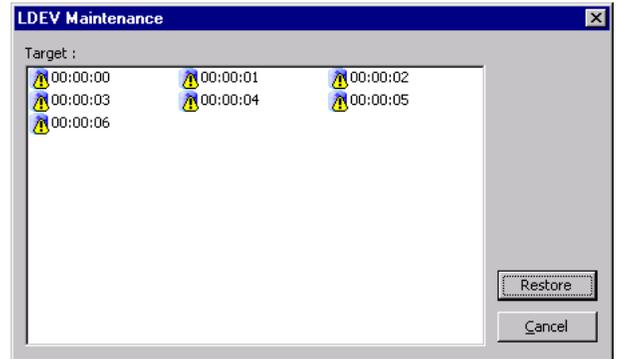
(4) <Execution>

Select (CL) [Restore] on the tool bar in the 'Logical Device' window.



(5) <Check>

Check the device (or group) to be restored in the 'LDEV Maintenance' window, and select (CL) [Restore].



(6) <Selection of Recovery Processing>

Select (CL) [Restore Type] in the 'Restore Logical Devices' window, and select (CL) [OK].

“Normal Restoration”
“Forcible Restoration”



■ Normal Restoration

Explanation:

In case LDEV(s) is (are) blocked due to multiple PDEV failures in one parity group, this option spins up the PDEV which was blocked last to restore the LDEV(s).

When to choose this option?

Use this option when you would like to restore the LDEV(s) that is (are) blocked due to multiple PDEV failures in one parity group.

Notice:

The purpose of this action is to restore the PDEV blocked last and restore the parity group status to “correction access”. Therefore do not replace or self-replace any failed HDD in the parity group before performing this action.

■Forcible Restoration

Explanation:

This option restores only the LDEV status forcibly without considering data consistency etc.

When all PDEV status in the parity group is “normal”, the LDEV status is changed from “blocked” to “normal”.

When to choose this option?

In case “Normal Restoration” cannot restore LDEV, use this option by following the instructions of the technical support division.

After PDEV is manually restored, the LDEV status is changed to “normal” forcibly.

Notice:

The data consistency may not be guaranteed. Contact the technical support division to ask for instructions.

(7)

This message is displayed only when “Forcible Restoration” is selected in Step (6).

Select (CL) [Yes] in the “Forcible restoration is not available for the LDEV whose “Protection Level” is SATA-E method. After that restoration, it might be the state of blocked LDEV again due to an internal error. Check if there is not SATA-E method LDEV. Do you want to continue this process?”.



(8) <Password Input>

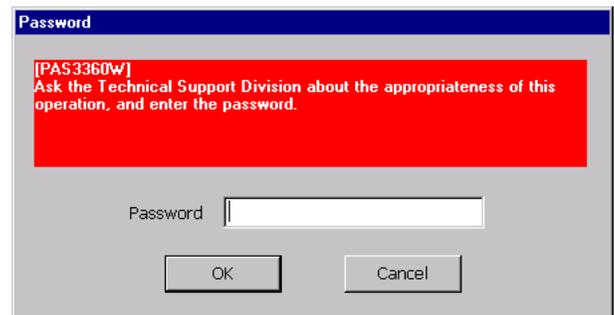
This operation is required only when “Forcible Restoration” is selected in Step (6).

Notice:

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Ask the Technical Support Division about the appropriateness of this operation, and enter the password.”



(9) <Processing Wait>

The following message is displayed.

“Restoring the logical device...”

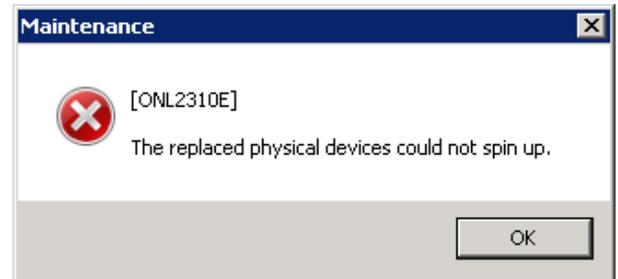
In case that, “Normal Restoration” is selected in Step (6).

If multiple PDEV failures, the restoration processing of the recoverable PDEV is performed here.

This processing cannot recover it when the following message is displayed.

“The replaced physical devices could not spin up.”

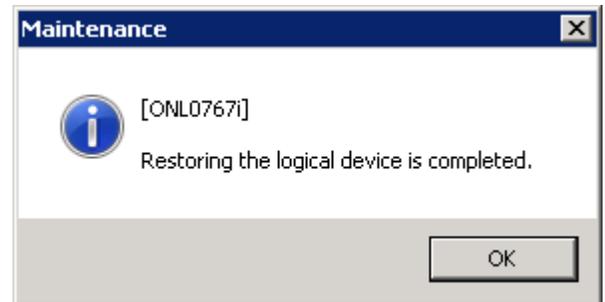
Perform the procedure RDK7 refer to [REP01-250](#).



(10) <Completion Check>

When the restoration is completed, the following message is displayed. Select (CL) [OK].

“Restoring the logical device is completed.”



(11) <Check of Device Status>

Check the target device status in the ‘Logical Device’ window.

(12) <Post-processing>

Close the ‘Logical Device’ window.

Close the ‘Maintenance’ window.

Change the mode to [View Mode].

2.10.4 Verify Logical Device

Notice:

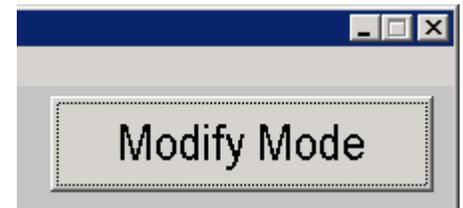
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>

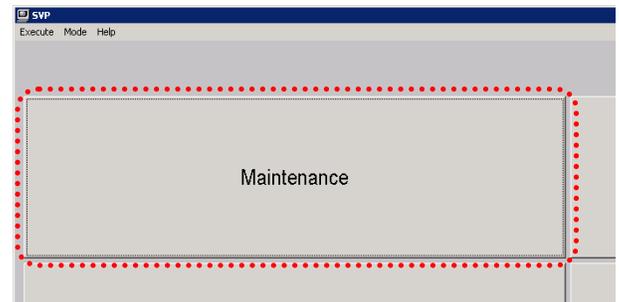
Close each menu of the starting SVP entirely.

(2) <Start>

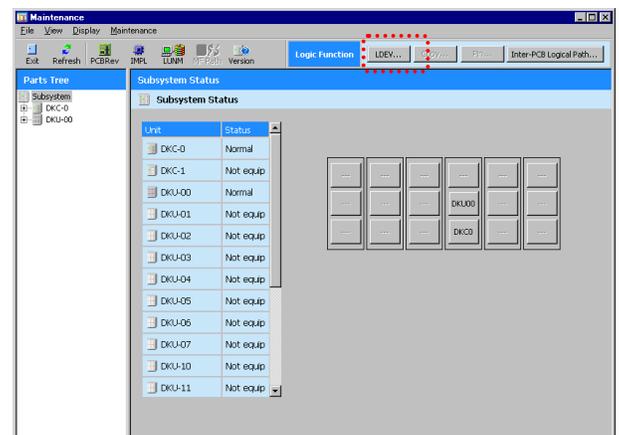
Change the mode to [Modify Mode].



Select (CL) the [Maintenance] in the 'SVP' window.



Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.

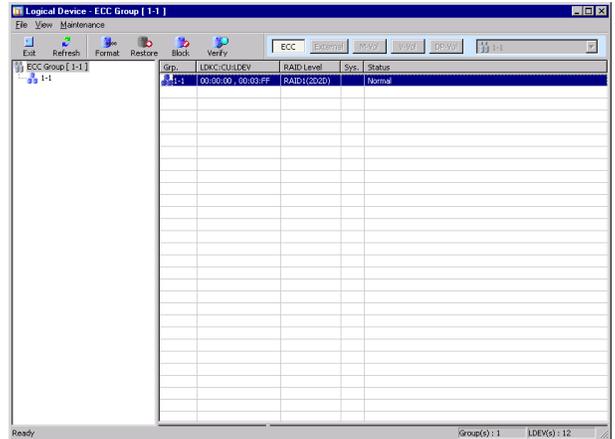


(3) <Selection of Logical Device>

Notice:

Be careful enough not to make a mistake in selecting a device.

Select (CL) the target device (or group) from the list in the right of the 'Logical Device' window.



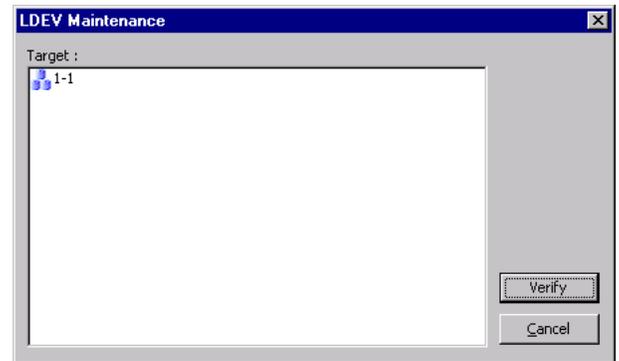
(4) <Execution>

Select (CL) [Verify] on the tool bar in the 'Logical Device' window.



(5) <Check>

Check the device (or group) which executes the parity synchronization check in the 'LDEV Maintenance' window, and select (CL) [Verify].



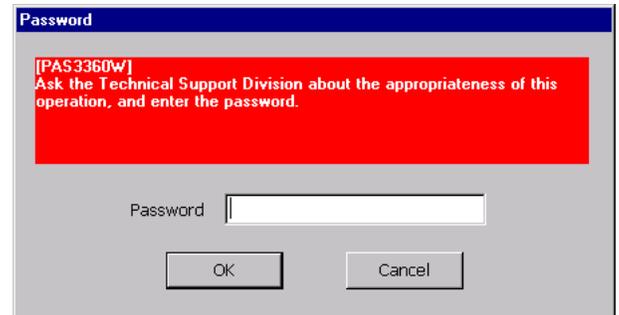
(6) <Password Input>

Notice:

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Ask the technical support division about the appropriateness of this operation, and enter the password.”



(7) <Selection of Check Content>

Input the corresponding items in the 'Verify Logical Devices' window, and select (CL) [OK].

**■ Auto Correct**

Auto Correct function is a function to correct data when detecting parity inconsistency.

When the checkbox is checked, parity consistency check and data correction will be done.

When the checkbox is unchecked, only parity consistency will be checked.

The behaviors of data correction are as follows.

[RAID5]

Data and the parity data are read out from each drive of LDEVs in the RAID group to check parity consistency. When the Auto Correct function is ON, and if parity inconsistency is detected, the parity data is regenerated from data drives to overwrite the parity data on drives.

Note: When data drives have any irregularity, the regenerated parity data may be wrong, which may cause a data problem.

[RAID6]

Data, P parity data, and Q parity data are read out from each drive of LDEVs in the RAID group to check parity consistency. When the Auto Correct function is ON, and if data inconsistency is detected, two parities of P and Q generated from data drives are regenerated to overwrite the P and Q parity data on drives.

Note: When data drives have any irregularity, the generated P and/or Q parities data may be wrong, which may cause a data problem.

[RAID1]

Data of primary drives and secondary drives are read out from each drive of LDEVs in the RAID group to check if they are matched. When data inconsistency is detected, the primary drive data is overwritten to the secondary drives.

Note: When the primary drive has any irregularity, it may cause a data problem.

■ Error Stop

Set the upper limit of error detection number for "Error Stop".

When the error detection number is the set value (*1) or more, the parity consistency check will be stopped.

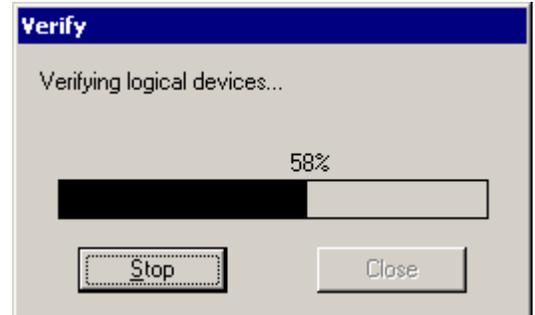
*1: Set the value to from 1 to 99.

(8) <Progress Check>

The progress in the processing of the parity synchronization check is displayed.

[Stop]: Stops the parity synchronization check.

When the check is started on condition that a parity group or on HDEV is specified.



When the check is started on condition that two or more parity groups are specified.



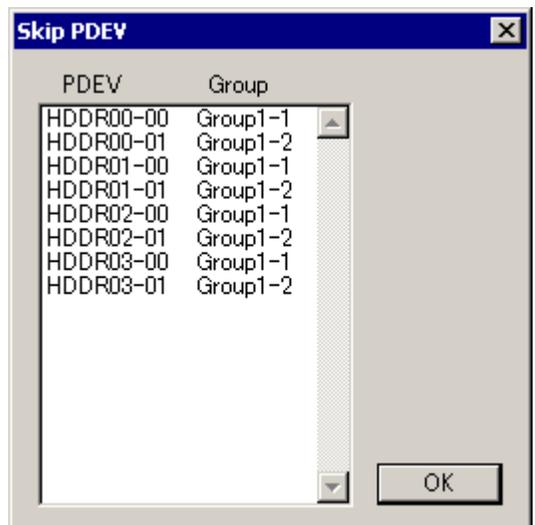
(9) <The check of PDEV which has not checked>

This operation is required only when the PDEV that was not able to execute the parity synchronization check exists.

The PDEV that was not able to execute the check is displayed.

It is possible that the check was not performed because the target PDEV has been blocked or the processing was stopped by pressing [Stop]. Check the status of the target PDEV after completing the synchronization check.

Check the content, and select (CL) [OK].



(10) <Output of Check Result File>

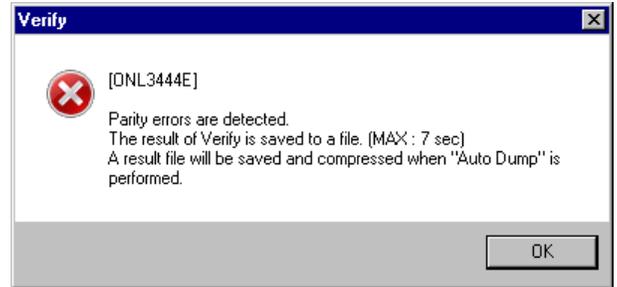
This operation is required only when the device with the parity error exists resulting from the check.

Select (CL) [OK] for the following message.

“Parity errors are detected. The result of Verify is saved to a file. (MAX : ***)

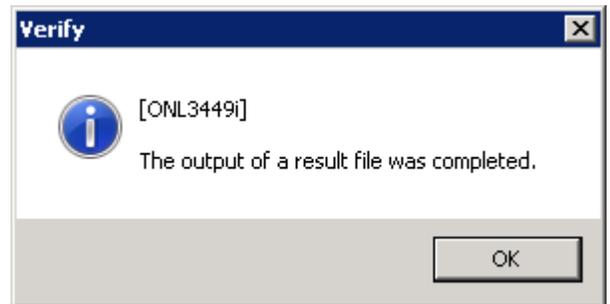
A result file will be saved and compressed when “Auto Dump” is performed.”

***: The time required for the processing



The following message is displayed after the file output.

“The output of a result file was completed.”



(11) <Check of Check Result>

This operation is required only when the device with the parity error exists resulting from the check.

The information of the device with the parity error is displayed. Check the details, and select (CL) [Close].

The content of the check window of the check result is shown below.

- Check window of the device with the parity error

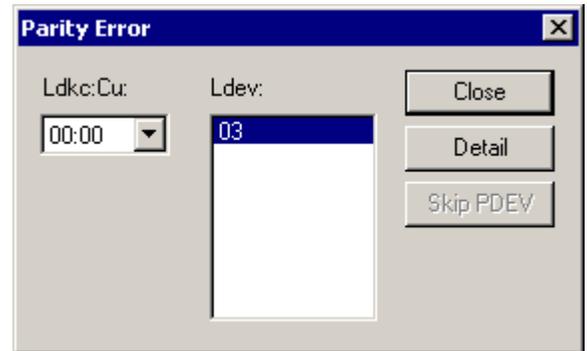
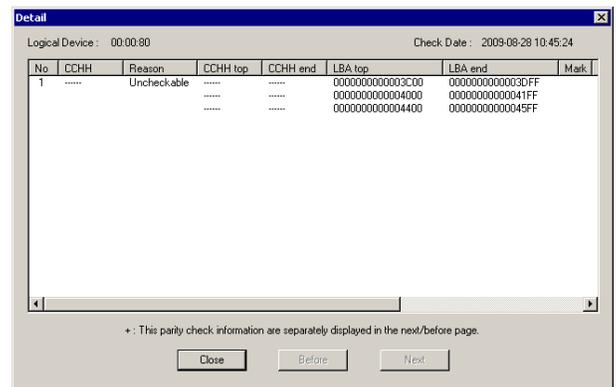


Table 2.10-1 List of Parity Error Windows

Item	Description
[Detail]	Displays the detailed information window of the device selected in [CU] – [LDEV].
[Skip PDEV]	Displays the ‘Skip PDEV’ window again (refer to Step (9)).

- Detailed Information Window

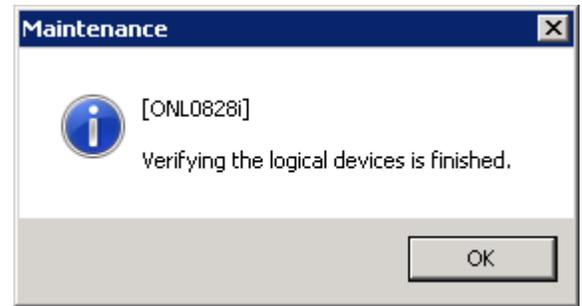
The details of the parity errors are displayed.



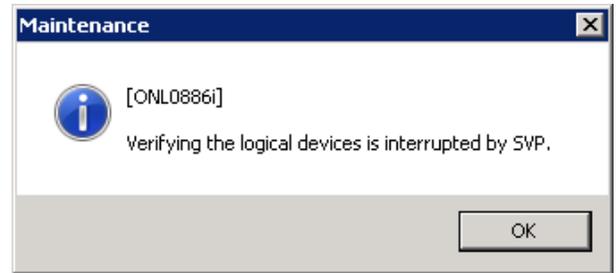
- *1: In case of the OPEN device, only LBA is displayed. However, “-----” is displayed in [CCHH/LBA] in case of the parity slot that the LBA display is impossible.
- *2: In the device which configures the extension LU (Open VOL), LDEV#:XXX of the target slot and the head LDEV#:YYY of the extension LU are displayed as “Logical Device: XXX (YYY).”
However, if the LDEV# selected in the ‘Parity Error’ window is the head device, “(YYY)” is not displayed.

(12) <Completion Check>

When the parity synchronization check is completed, the following message is displayed.
Select (CL) [OK].
“Verifying the logical devices is finished.”



When it is stopped, the following message is displayed.
“Verifying the logical devices is interrupted by SVP.”



(13) <Post-processing>

Close the 'Logical Device' window.
Close the 'Maintenance' window.
Change the mode to [View Mode].

2.10.5 LDEV recovery for multiple PDEV failures

Refer to [SVP02-930](#).

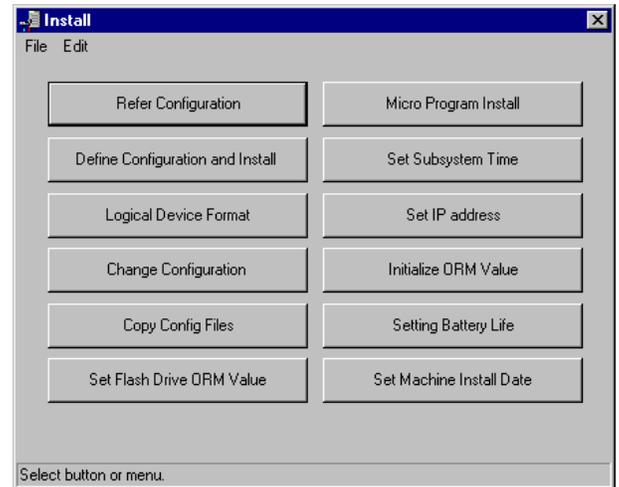
2.10.6 Format all blocked Logical Devices together

Notice:

Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

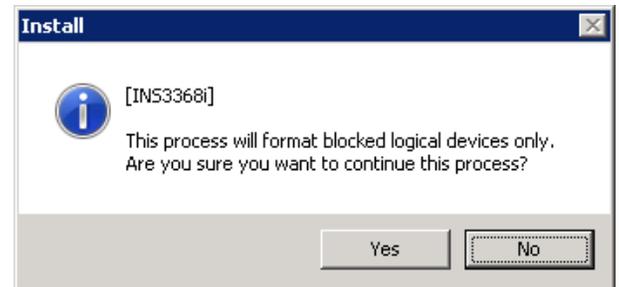
(1)

Select (CL) [Logical Device Format].



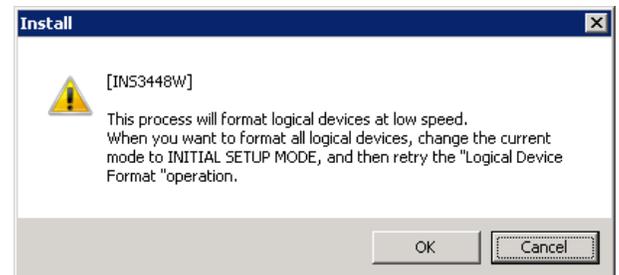
(2)

Select (CL) [Yes] in response to “This process will format blocked logical devices only. Are you sure you want to continue this process?”.



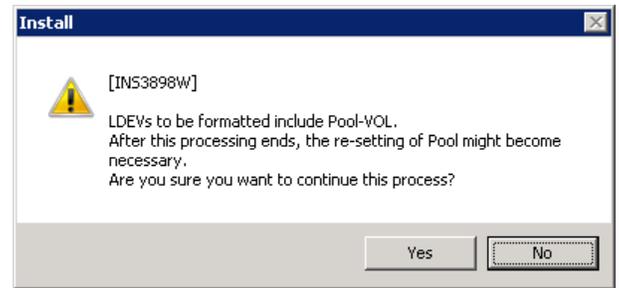
(3)

Select (CL) [OK] in response to “This process will format logical devices at low speed. When you want to format all logical devices, change the current mode to INITIAL SETUP MODE, and then retry the “Logical Device Format” operation.”.



(4)

When LDEVs to be formatted include Pool-VOL, Select (CL) [Yes] in response to “LDEVs to be formatted include Pool-VOL. After this processing ends, the re-setting of Pool might become necessary. Are you sure you want to continue this process?”.

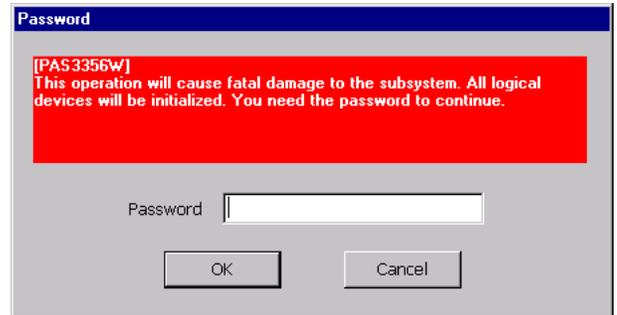


(5)

Notice:

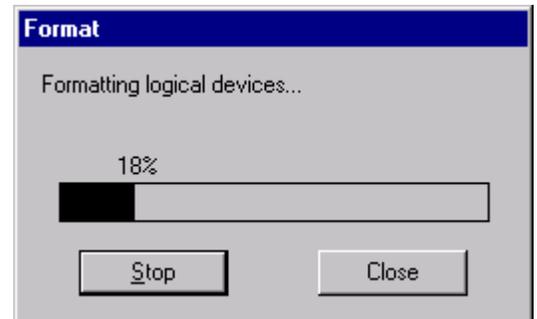
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

“This operation will cause fatal damage to the subsystem. All logical devices will be initialized. You need the password to continue.” is displayed.
Enter the password and select (CL) [OK].



(6)

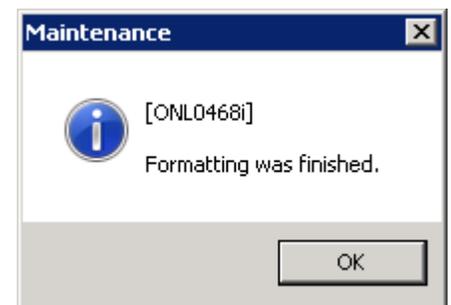
“Formatting logical devices...” is displayed.



(7)

Select (CL) [OK] in response to “Formatting was finished.”.

Note: When System Option 269 is set and all LDEVs in ECC Group are other than the format target, SIM = 0x4100XX is not output at the end even if the SATA drive is included in the format target.



(8)

Close the 'Install' window.

2.10.7 Quick Format of Logical Devices

Notice:

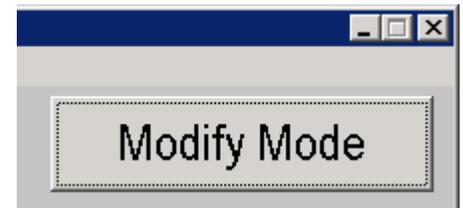
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>

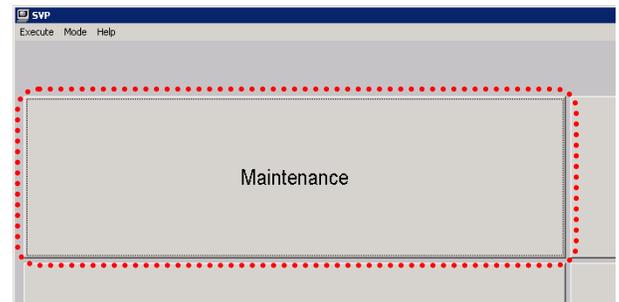
Close each menu of the starting SVP entirely.

(2) <Start>

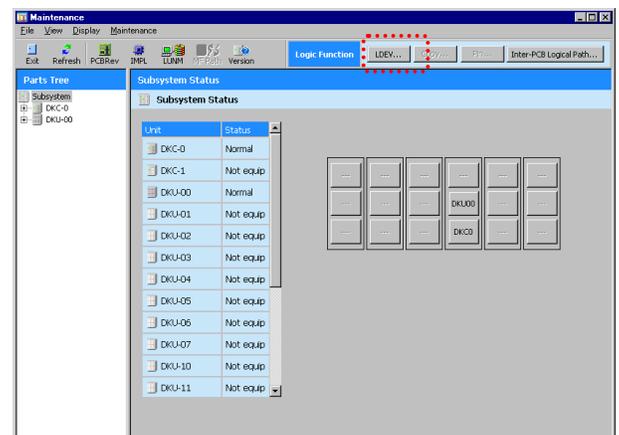
Change the mode to [Modify Mode].



Select (CL) the [Maintenance] in the 'SVP' window.



Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.



(3) <Selection of Logical Device>

Notice:

Be careful enough not to make a mistake in selecting a device.

(3)-1 Case of selection Parity Group

Select (CL) the target group from the list in the right of the 'Logical Device' window.

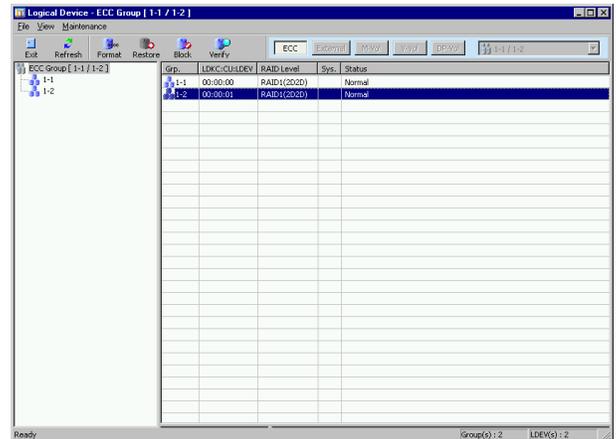
Notes: In the case of following;

Select (CL) devices (LDEVs) because the selection of parity group are not able to execute Quick Format.

Select (CL) the target device (or group) from the list in the right of the 'Logical Device' window.

- Normal devices (LDEV) are included in the specified parity group.
- All devices (LDEV) of the LUSE composition are not included in the specified parity group.

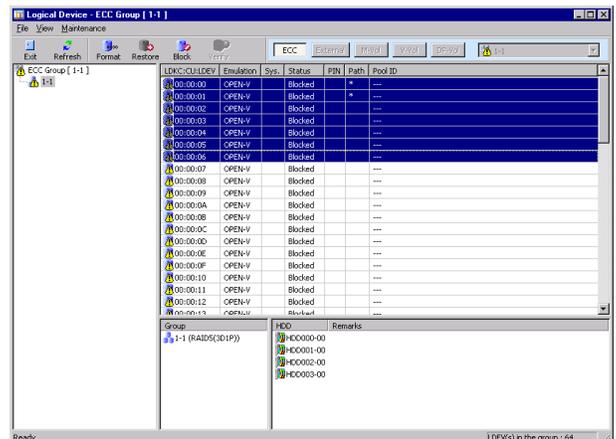
Please confirm devices (LDEV) of the LUSE composition by "3.10 LUN Management" (SVP03-530) of the SVP SECTION or "5.2.4 Refer Configuration" (INST05-510) of the INSTALLATION SECTION.



(3)-2 Case of selection Device (LDEV)

Select (CL) the parity group included the target devices from the list in the right of the 'Logical Device' window.

And select (CL) the target devices (LDEV) in the right list of the screen.



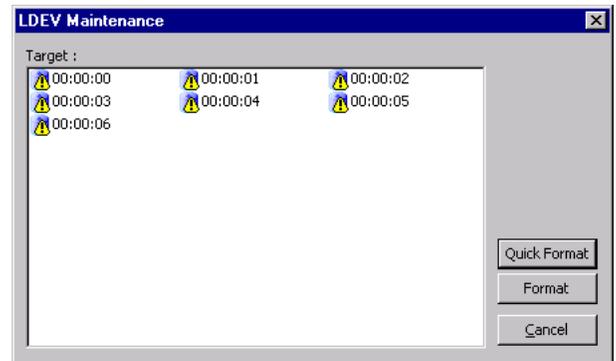
(4) <Execution>

Select (CL) [Format] on the tool bar in the 'Logical Device' window.



(5) <Check>

Check the device (or group) to be restored in the 'LDEV Maintenance' window, and select (CL) [Quick Format].



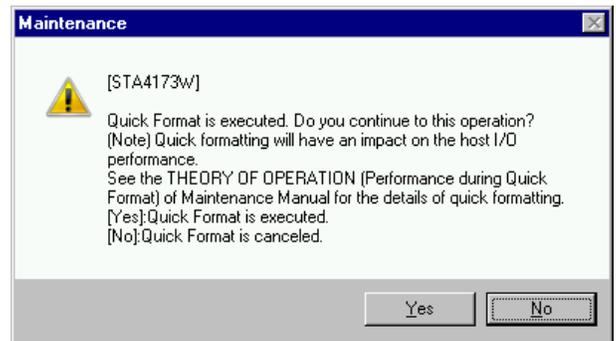
Select (CL) [Yes] in response to “Quick Format is executed. Do you continue to this operation?”

(Note) Quick formatting will have an impact on the host I/O performance.

See the THEORY OF OPERATION (Performance during Quick Format) of Maintenance Manual for the details of quick formatting.

[Yes]:Quick Format is executed.

[No]:Quick Format is canceled.”.



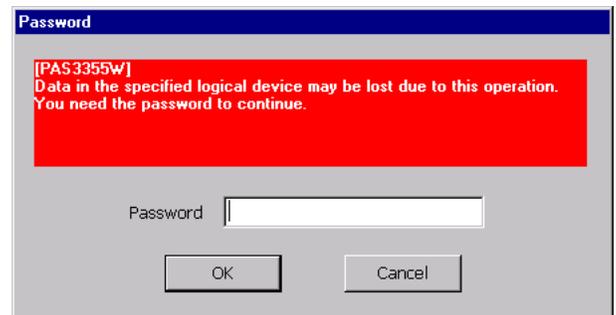
(6) <Password Input>

Notice:

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

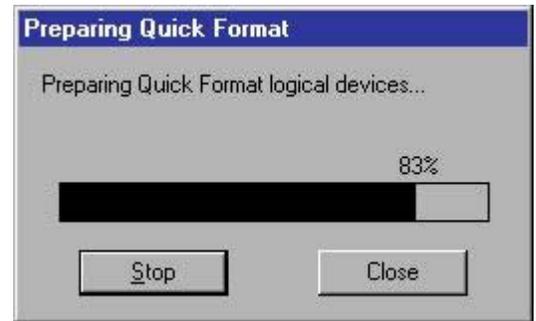
Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Data in the specified logical device may be lost due to this operation. You need the password to continue.”



(7) <Progress confirmation>

The processing progress preparing Quick Format is displayed.

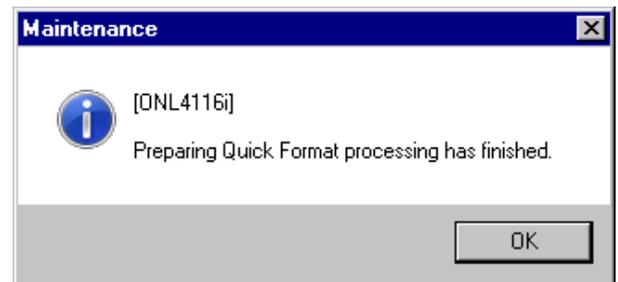


(8) <End confirmation>

When the processing preparing Quick Format is completed, the following message is displayed.

Select (CL) [OK].

“Preparing Quick Format processing has finished.”



Note: After Quick Format is finished, SIM =

0x410100 is output when executing Quick Format from SVP.

When all Quick Format is finished, the above SIM is output if Quick Format is executed from Storage Navigator while executing Quick Format from SVP.

When Quick Format is executed only from Storage Navigator, SIM is not output.

(9) <Post-processing>

Close the 'Logical Device' window.

Close the 'Maintenance' window.

Change the mode to [View Mode].

2.11 Pin Data indication

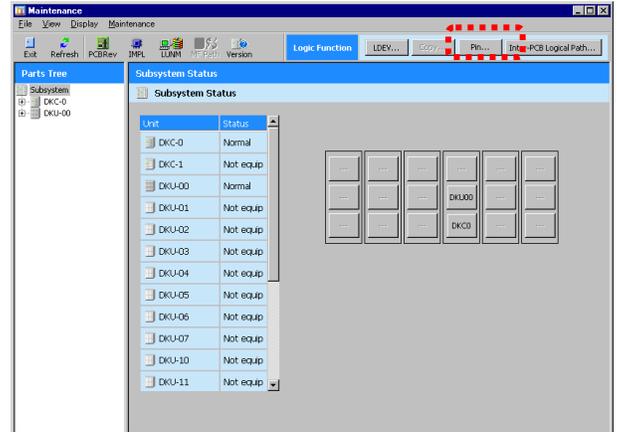
Prerequisite operation

(1)

Select (CL) [Maintenance].

(2)

Select (CL) [PIN...] in the 'Maintenance' dialog box.

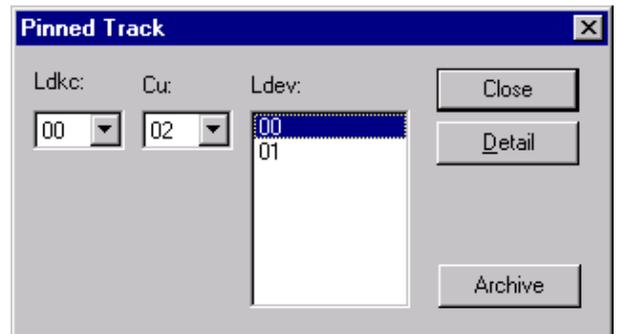


(3)

Display an LDEV with a pinned slot. Select (CL) the LDEV, details of which you want to display, in "Ldkc:", "Cu:", "Ldev:" and select (CL) [Detail].

----- Go to Step (4).

Note: When the pinned slot is gone, the LDEV, an occurrence of the pinned slot in which was reported by a SIM, is not displayed.



When you want to output pinned data to a file, select (CL) the [Archive] button.

----- Go to Step (5).

When you close the "Pinned Track" window, select (CL) the [Close] button.

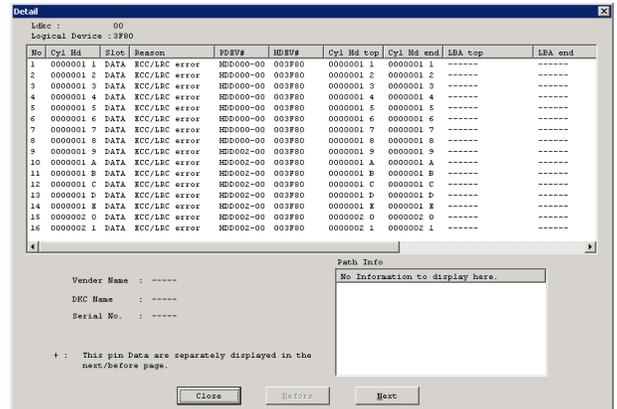
----- Go to Step (7).

(4)

Display the detail of a Pin Slot.

(If there are more than 17 Pin Slots, the [Next] button will display other Pin Slots.)

Note1: If a Pin Slot has some recoverable trouble, the detail of the Pin Slot will not be displayed. In case of OPEN-LDEV, only LBA's Pin Slots are displayed. But, if the Pin Slot of LBA's can't be displayed, "-----" is displayed in both CCHH and LBA columns.



Note2: In case of same slot, The same value is displayed for No.
(The thing that is the same slot is shown.)

Note3: LDEV might not be displayed according to the timing of the information acquisition. In that case, try to select the Refresh button of the maintenance screen (CL), and to acquire information.

When you want to close the 'Detail' window, select (CL) [Close] button.

----- Return to Step (3).

(5)

"Do you want to output pinned data to a file? You can get the pinned data file by executing the FD Copy or Auto Dump," is displayed.

When you want to output the result to a file, select (CL) [Yes].

----- Go to Step (6).

When you do not want to output the result to a file, select (CL) [No].

----- Return to Step (3).

(6)

"Output of the pinned data file was completed", is displayed.

----- Return to Step (3).

(7)

Select (CL) [Close] in the 'Detail' dialog box.

Select (CL) [Close] in the 'Pin Volume' dialog box.

Close the 'Maintenance' window.

2.12 Multi PCB Replace

- (1) <Set path offline>

Set the path offline from HOST when replacing CHA.

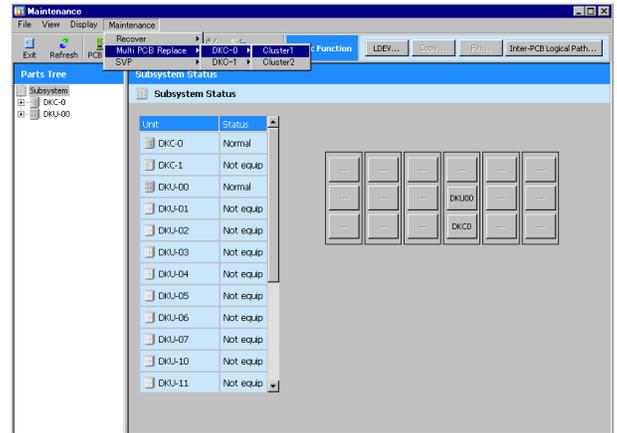
(2) <Mode Change>

Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Maintenance].

(3) <Maintenance>

The 'Maintenance' window is displayed.

Select (CL) the [Maintenance]-[Multi PCB Replace]-[DKC-n]-[Cluster n] on the menu.

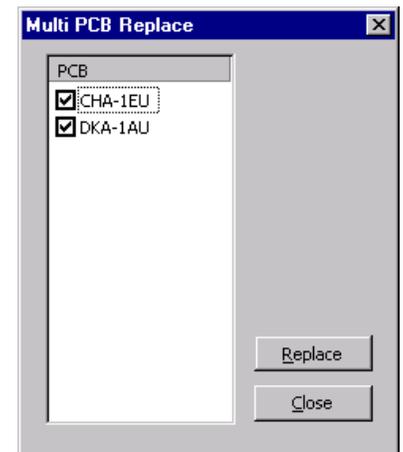


(4) <Select CHA/DKA>

Notice:

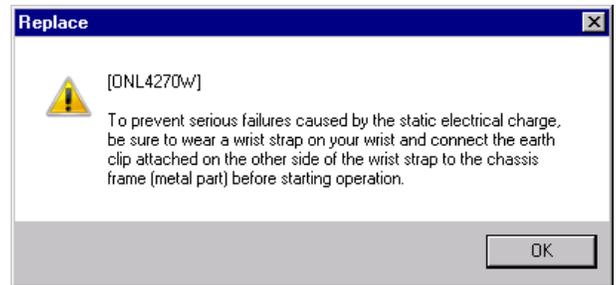
- When the subsystem is placed online, ask the customer to place it offline.
- When the screen prompting an operator to input a password in order to prevent multiple maintenance, contact the technical support division to ask for instructions.

Select (CL) CHA/DKA PCB.
Select (CL) [Replace].



(5) <Wear a wrist strap>

Select (CL) [OK] in response to “To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.”.



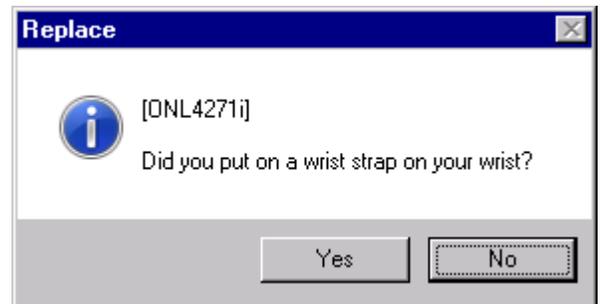
(5)-1 <Confirm wearing wrist strap>

In response to a message, “Did you put on a wrist strap on your wrist?”.

Select [Yes] when wrist strap is on your wrist.

Select [No] when there is no wrist strap on your wrist.

When [No] is selected (CL), go to Step (5)-2.



(5)-2

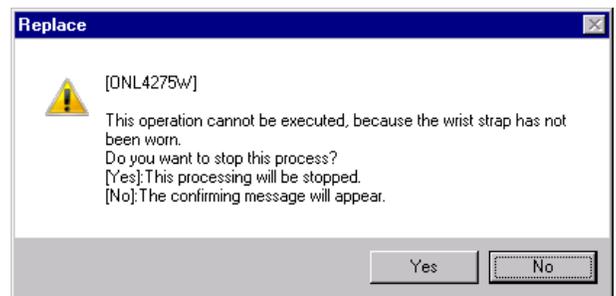
In response to a message, “This operation cannot be executed, because the wrist strap has not been worn. Do you want to stop this process?”

[Yes]: This processing will be stopped.

[No]: This confirming message will appear.”

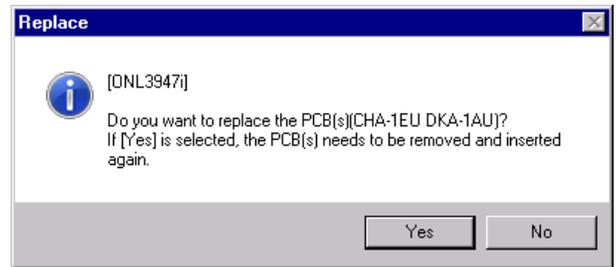
When [Yes] is selected (CL), returned to Step (4).

When [No] is selected (CL), returned to Step (5).



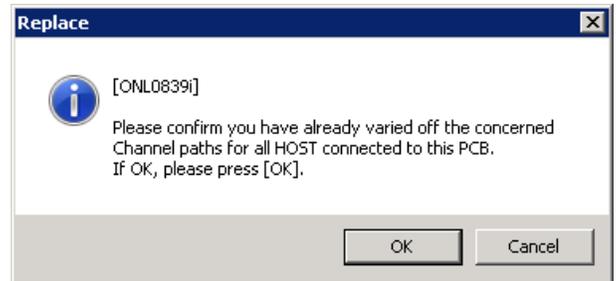
(6) <Confirm the PCB replace>

After you confirm that the PCB to be replaced is correct, select (CL) the [Yes] button in response to “Do you want to replace the PCB(s)(CHA-*nnn* DKA-*nnn*)? If [Yes] is selected, the PCB(s) needs to be removed and inserted again.”.

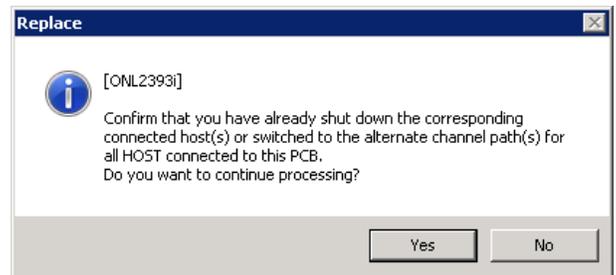


(7) <Confirm Channel Path offline>

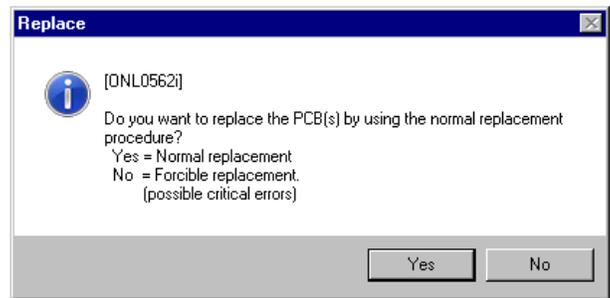
Select (CL) [OK] in response to “Please confirm you have already varied off the concerned Channel paths for all HOST connected to this PCB. If OK, please press [OK].”.



If a Fibre channel adapter is installed:
After you confirm that you have stopped concerned Channel paths, select (CL) [Yes].



(8) <Caution message for system down>



Notice:

Select (CL) [Yes] in response to the message below.

“Do you want to replace the PCB(s) by using the normal replacement procedure?”

Yes = Normal replacement

No = Forcible replacement

(Possible critical errors)”

(9) <CHA/DKA blocking>

* For CHA

“The CHA-xxx is being blocked... Usually, several minutes (maximum 15 minutes)”

* For DKA

“The DKA-xxx is being blocked...”

(10) <Check to see if shut down LED is lit>

Select (CL)

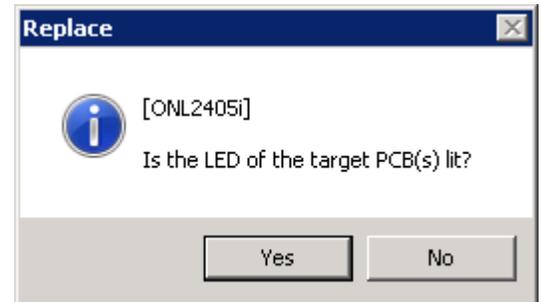
* [Yes] if LED is on

* [No] if LED is off

in response to “Is the LED of the target PCB(s) lit?”.

If [No] is selected:

Select in response to “Is the LED of the target PCB(s) lit?” again.

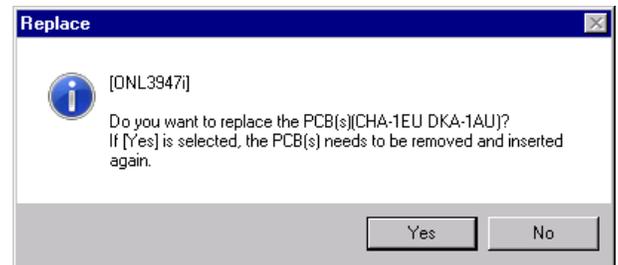


<Forcing shut down LED on>

If [No] is selected:

Select (CL) [OK] in response to “Check the location of the target PCB(s)(CHA-nnn DKA-nnn), then pull out the PCB(s) without considering the status of LED.”.

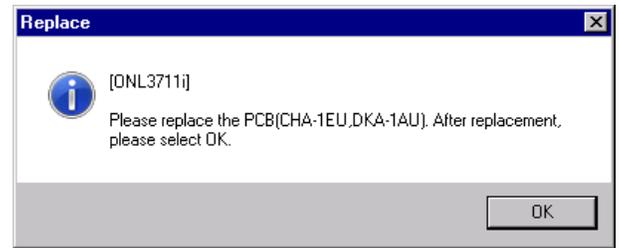
Go to step (11).

For CHA (Fiber) ----- HARDWARE RCH1 ([REP03-12-10](#))For CHA (MF Fibre) ----- HARDWARE RCH2 ([REP03-13-10](#))For CHA (FCoE) ----- HARDWARE RCH3 ([REP03-35-10](#))For DKA ----- HARDWARE RDA1 ([REP03-14-10](#))

(11) <Beginning of CHA / DKA Replacement>

“Please replace the PCB(CHA-xxx DKA-xxx). After replacement, please select OK.” is displayed.

Select (CL) [OK] after replacing the PCBs.



For CHA (Fiber) ----- HARDWARE RCH1 ([REP03-12-10](#))

For CHA (MF Fibre) ----- HARDWARE RCH2 ([REP03-13-10](#))

For CHA (FCoE) ----- HARDWARE RCH3 ([REP03-35-10](#))

For DKA ----- HARDWARE RDA1 ([REP03-14-10](#))

(12) <Check the recovery processing>

* For DKA

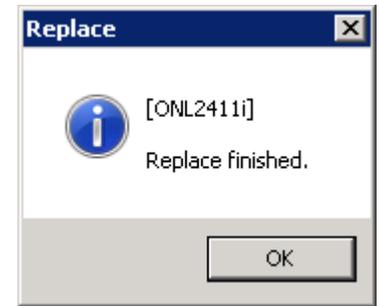
“Restoring (DKA-xxx). Usually, several minutes (maximum xx minutes).”

“DKA-xxx is being path recovered...”

* For CHA

“Restoring (CHA-xxx). Usually, several minutes (maximum xx minutes).”

- (13) <Check the end of CHA/DKA recovery>
Select (CL) [OK] in response to “Replace finished.”.



(14) <Path on-line when CHA is replaced>

When a CHA is replaced, set the path (from the host) on the replaced CHA to ONLINE by your customer.

(15) <SIM Complete>

Go to [SVP02-650](#).

(16)

Close the 'Maintenance' window.

Change the mode from [Modify Mode] to [View Mode].

2.13 System Option

[Overview]

Change the following system option when the system operates.

- ① Spare Disk Recovering ----- Select the performance density when data is copied to a spare disk. (correction copy and drive copy)
- Interleave : Everytime 4-slot copy is completed, copy job sleeps for the time dependent on load of HOST I/O.
 - Full Speed : No sleep. (No considering HOST job)

 **CAUTION**

Please do not use if no channel paths is varied offline.

- ② Disk Copy Pace ----- Specification of copy pace is supported with the “Interleave” mode at Spare Disk Recovering. Three modes are supported.
- Medium : Optimization mode. The copy time depends on load of HOST I/O.
 - Faster : Copy job is prior to HOST job.
 - Slower : HOST job is prior to copy job.
- ③ Copy Operation-----
- Dynamic Sparing : Copy automatically to a spare disk if disk failure exceeded the threshold value.
 - Correction Copy : Execute correction copy to a spare disk automatically when one drive has blocked.
- ④ Read Configuration Data Mode
----- To change the method of adding S/N which DKC reports by the Read Configuration Data command.
- OFF : Compatible method
 - ON : 4096 support method (default)
- ⑤ Link Fail Threshold ----- Define the threshold value to report the link failure.

- © WR Through ----- This option sets the write through operation of each LDEV to be performed when a failure occurs in the Cache Memory PCB of one of the duplicated systems.
- Destage : ON : The write through operation is performed.
(default)
 - OFF : The write through operation is not performed.

When ON is selected (default) :

When a failure occurs in the Cache Memory PCB of one of the duplicated systems during a writing of data sent from a host, what is called the write through operation is performed in which completion of a writing is reported to the host after waiting for completion of a writing to a disk drive. Normally, select ON from the viewpoint of usability of data.

When OFF is selected :

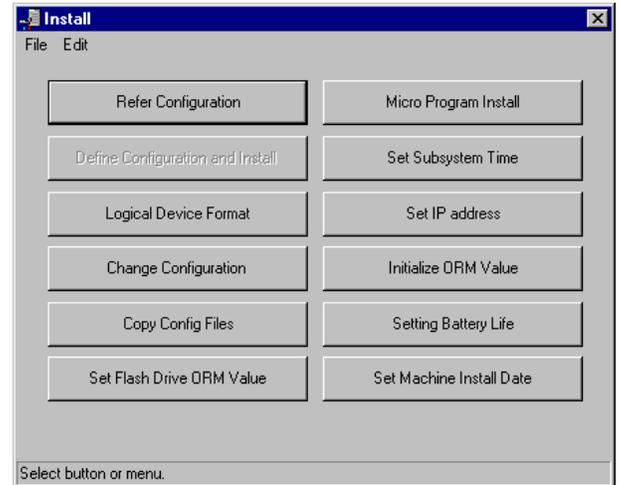
When a failure occurs in the Cache Memory PCB of one of the duplicated systems during a writing of data sent from a host, what is called the write after operation is performed in which completion of a writing is reported to a host when the data has been written to the cache memory and it is made possible to reduce lowering of writing performance caused by the Cache Memory PCB failure. However, when the Cache Memory PCB of the other one of the duplicated systems is detached while the subsystem is operating with one of the duplicated systems, write pending data that exists in the operation mode above will be lost. Therefore, set this system option only when the LDEV concerned is duplicated to another DKC by means of the duplicated writing instructed by a host.

(1)

Change the Mode from [View Mode] to [Modify Mode].
Select (CL) [Install].

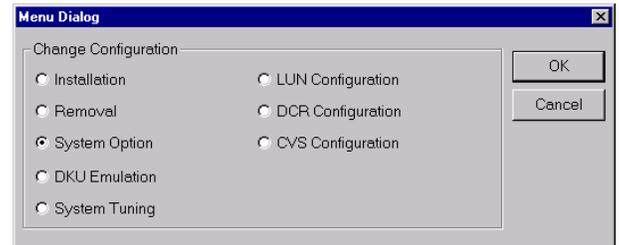
(2)

Select (CL) the [Change Configuration] menu
in the 'Install' window and select (CL) [OK].



(3)

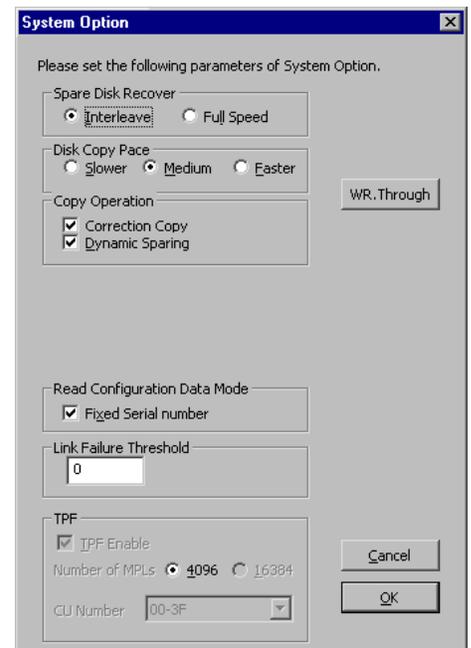
Select (CL) the [System Option] menu in the
'Menu Dialog' window and select (CL) [OK].



(4)

Select (CL) the desired item in the 'System Option'
dialog box, and select (CL) [OK]. Go to step (5).

When [WR.Through] is selected (CL), the 'Synchronous
Destage Mode Define' window is displayed. Go to step
(4-1).

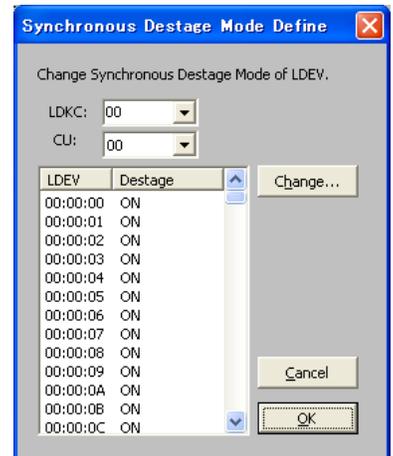


(4-1) <Set the Destage Mode >

Set the configuration information in ‘Synchronous Destage Mode Define’.

After setting all the items, select (CL) [OK]. Return to Step (4).

If you do not want to reflect the setting, select (CL) [Cancel]. Return to Step (4).



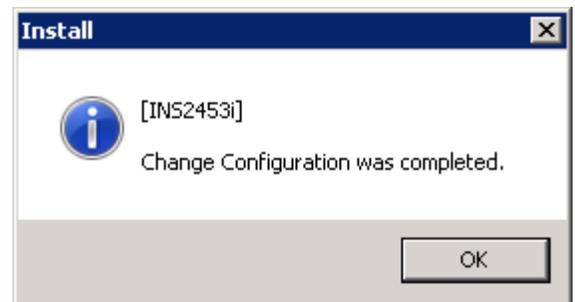
(5)

“Loading configuration...” is displayed.

(6)

“Change Configuration was completed.” is displayed.

Select (CL) [OK].



(7)

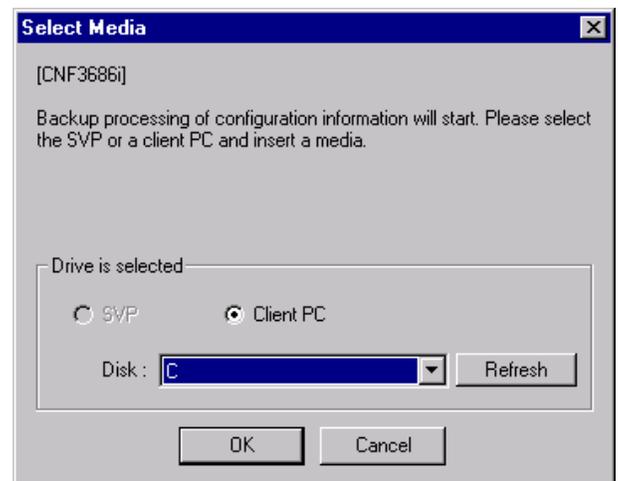
Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

Please select (CL) the [Refresh] button, and update drive information.

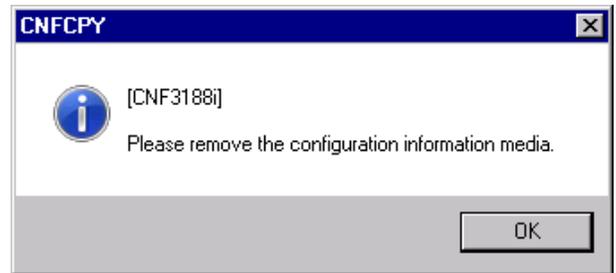
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



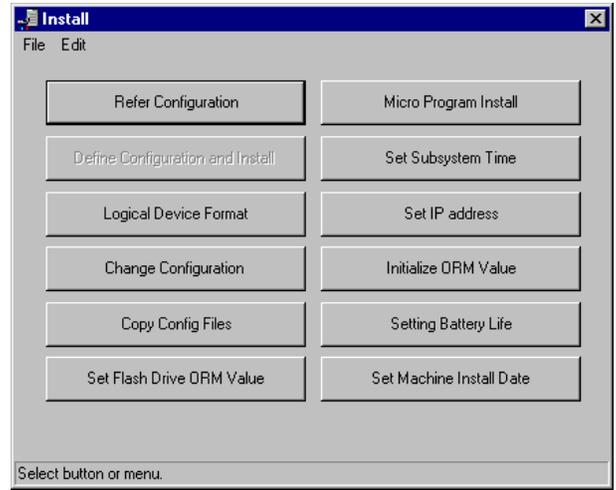
(8)

When this procedure is completed, the message “Please remove the configuration information media.” is displayed.
Remove the configuration information media,
Select (CL) [OK].



(9)

Close the 'Install' window.
Select (CL) [File]-[Exit].



(10)

Change the Mode from [Modify Mode] to [View Mode].

Blank Sheet

2.14 (Blank)

Blank Sheet

Blank Sheet

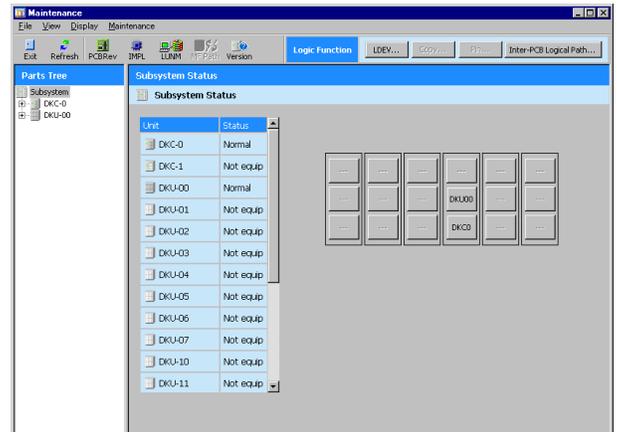
Blank Sheet

Blank Sheet

2.15 PCB/SFP Revision Display

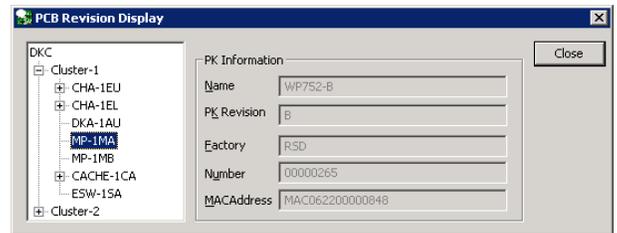
- (1) Select (CL) [Maintenance] in the 'SVP' window.

- (2) Select (CL) [PCBRev] in the 'Maintenance' window.



- (3) 'Reading or Writing PCB revision informations...' is displayed.

- (4) Select a PCB/PORT whose revision you want to display in the 'PCB Revision Display' window.



- (5)
Select (CL) [Close] in the 'PCB Revision Display' dialog box.
-

- (6)
Close the 'Maintenance' window.

2.16 Setting Battery Life

Set the Battery Life warning SIM to prompt to prepare the periodical exchange maintenance of a battery before the lifetime of the battery (3 years) equipped in the Subsystem.

Set the number of days remained until you generate [Battery Life Warning SIM] based on your maintenance plan.

1.

Change the mode from [View Mode] to [Modify Mode].

Select (CL) [Install].

Select (CL) the [Setting Battery Life] menu in the 'Install' window.

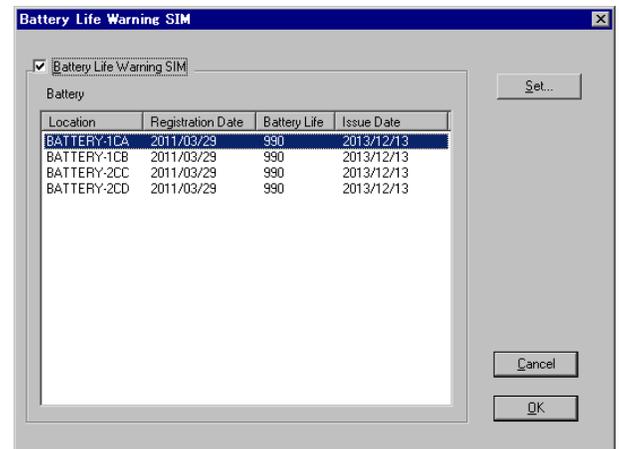
2.

Select (CL) [Set...] applying the check to [Battery Life Warning SIM] and select (CL) the target CM Battery.

Go to step 3.

Select (CL) [OK] and go to step 4.

Note: If the date is displayed as "****/**/**", follow step 3 to set the date.



3.

Select (CL) [OK] after inputting the remainder days until Warning SIM is reported.

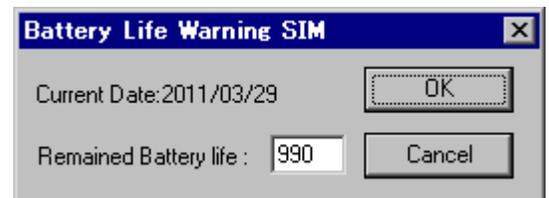
Return to step 2.

Note: After executing the periodical exchange of a battery, set 33 month (990 days).

Note: Default value is 33 month (990 days), which is 3 month earlier than the lifetime of a battery (3 years).

Determine the number of days remained based on your maintenance plan.

Note: The input ranges of "Remained Battery life" are from 1 to 3650. Please set [Battery Life Warning SIM] of step 2 to check off when not reporting on Warning SIM.



4.

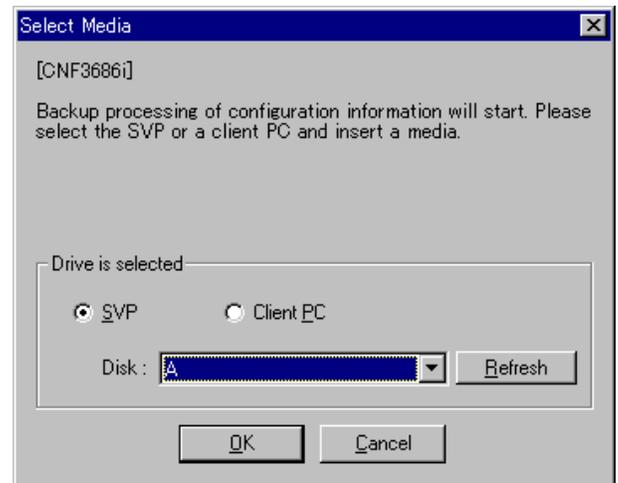
Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

Please select (CL) the [Refresh] button, and update drive information.

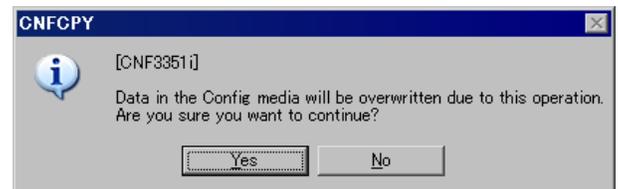
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



5.

“Data in the Config media will be overwritten due to this operation. Are you sure you want to continue?” is displayed. Select (CL) [Yes].



6.

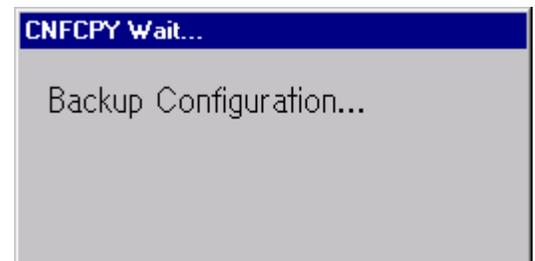
When this procedure is completed, the message “Please remove the configuration information media.” is displayed.

Remove the configuration information media, Select (CL) [OK].



7.

“Backup Configuration...” is displayed.



8.

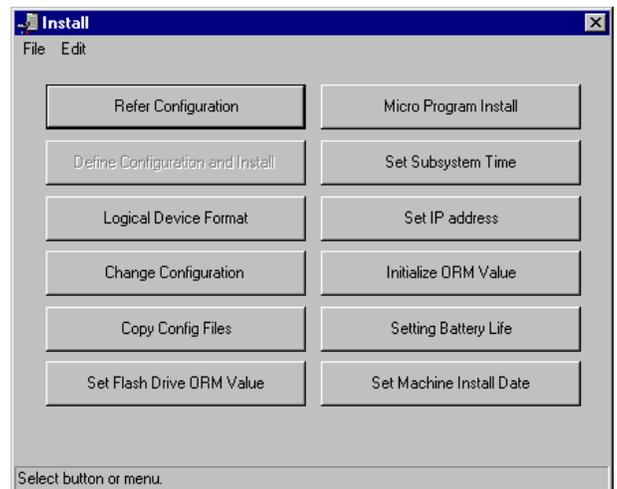
Close the 'Install' window.

2.17 Setting Machine Install Data

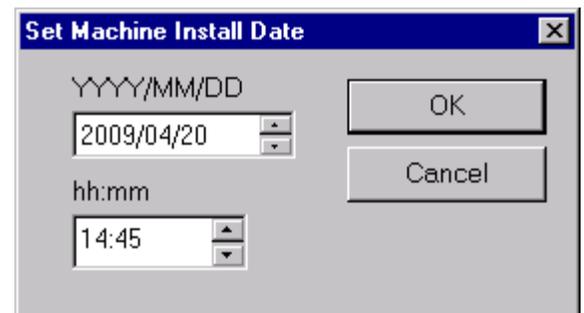
- (1)
Change Mode from [View Mode] to [Modify Mode].
-

- (2)
Select (CL) the [Install] in the [Modify Mode].
-

- (3)
Select (CL) the [Set Machine Install Date]
menu in the 'Install' window.

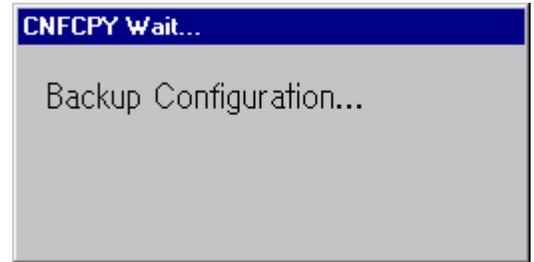


- (4)
Input the Date and Time.
Select (CL) the [OK] button.



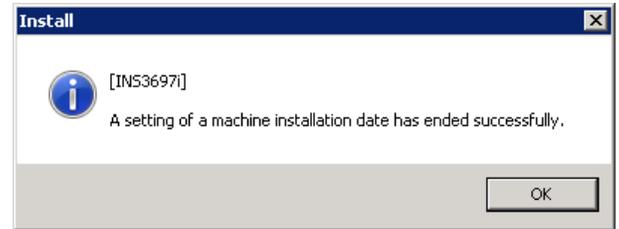
(5)

“Backup Configuration...” is displayed.



(6)

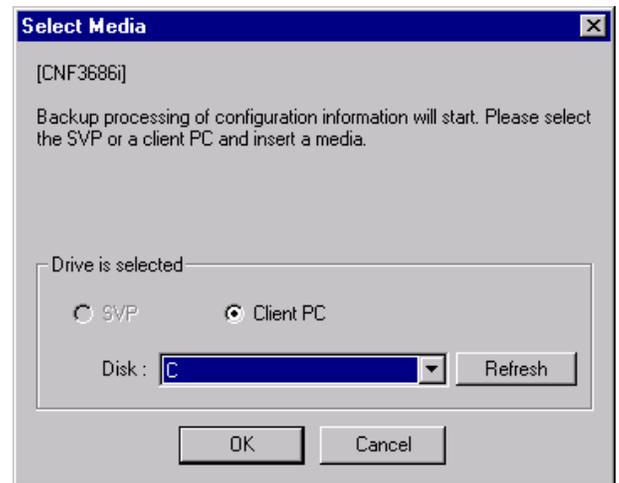
“A setting of a machine installation data has ended successfully.” is displayed.
Select (CL) the [OK] button.



(7)

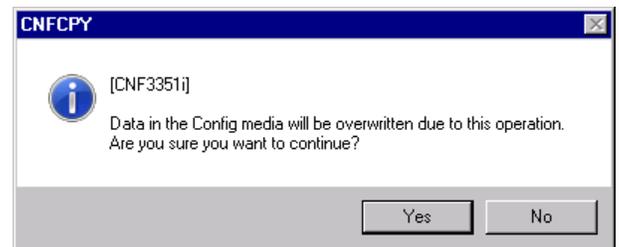
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



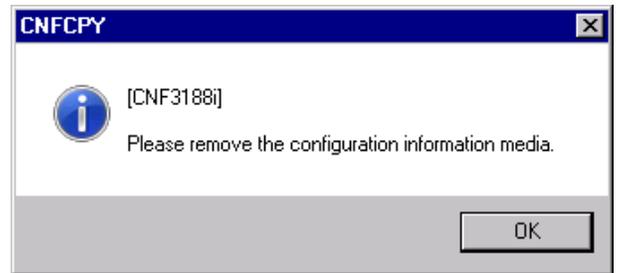
(8)

“Data in the Config media will be overwritten due to this operation. Are you sure you want to continue?” is displayed. Select (CL) the [Yes] button.



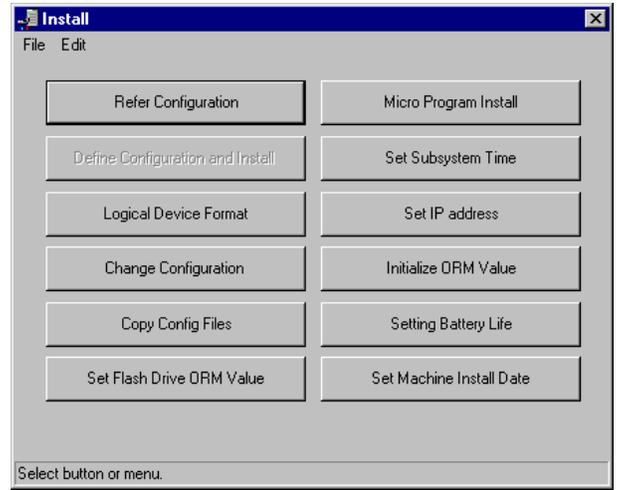
(9)

When this procedure is completed, message “Please remove the configuration information media.” is displayed. Remove the configuration information media, select (CL) [OK] button.



(10)

Close the 'Install' window.



2.18 SVP Switching

This function is valid when the SVP High Reliability Kit is installed.

Notice: This operation needs that Standby SVP is a View mode.

Notice: When screen saver operates (60 minutes pass without operation) with a Standby SVP having been connected to the remote desktop, this operation fails.

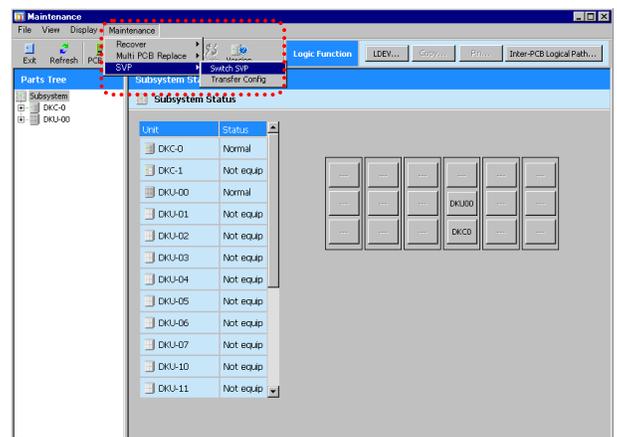
(1) <Operation Mode Change>

Change the mode to [Modify Mode].

Select (CL) the [Maintenance] button.

(2)

Select (CL) [Maintenance]-[SVP]-[Switch SVP] from the menu.

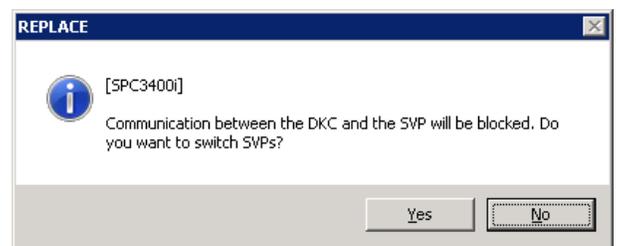


(3) <Execution>

Execute switching.

Select (CL) [Yes].

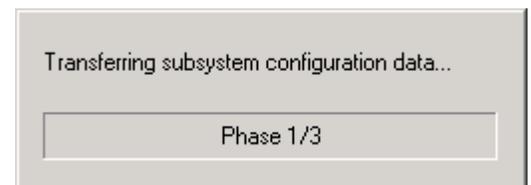
* Switching takes about 20 minutes.



(4) <Configuration Information Transfer>

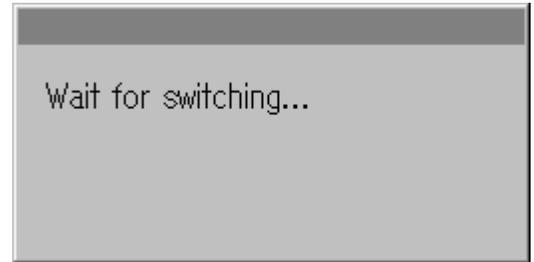
The message "Transferring subsystem configuration data..." is displayed.

The SVP transfers the configuration information automatically to reflect the configuration information of the master SVP on the standby side SVP. Therefore, if the transfer processing of the configuration information overlaps, the actually transferred status display may be repeated.



(5) <SVP Switching Start>

The message “Wait for switching...” is displayed.
 The subsystem is automatically restarted and in the Standby status by SVP switching.
 (SVP and Console PC are disconnected.)

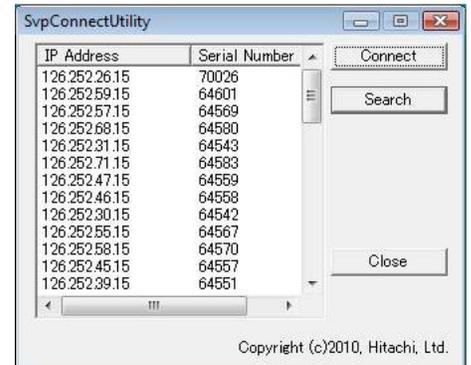


(6) <Connection to SVP after Switching Operation>

It waits for about 3 minutes until a change is completed.
 After Standby SVP starts as Master SVP by the switching indication, use the connection utility connect Console PC and the switched SVP.

For the Executing SVP Connect Utility procedure, refer to “1.3 (2) Executing SVP Connect Utility” (SVP01-50).

(IP Address is the same with that of SVP at the time of the SVP switching indication.)

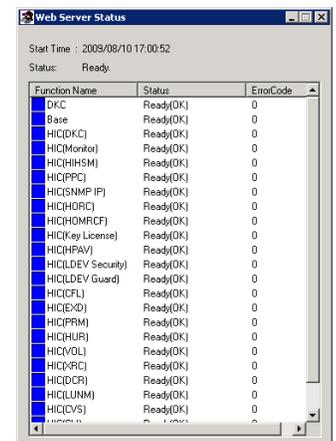


(7) <Initial Window>

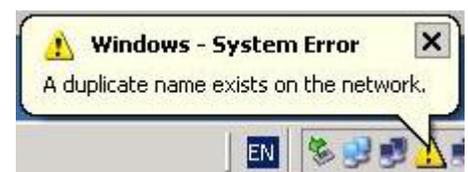
Press the “Web Server Status” button.

(8) <Web Server Status Window>

If all function’s Status displays Ready, switching is completed.



Note: The “A duplicate name exists on the network.” message may be displayed by network environment after a change. Although the message may be displayed, there is especially no problem.



2.19 Configuration Information Transfer

This function is valid when the SVP High Reliability Kit is installed.

Notice: This operation needs that Standby SVP is a View mode.

Notice: When screen saver operates (60 minutes pass without operation) with a Standby SVP having been connected to the remote desktop, this operation fails.

Execute the following operation for Master SVP.

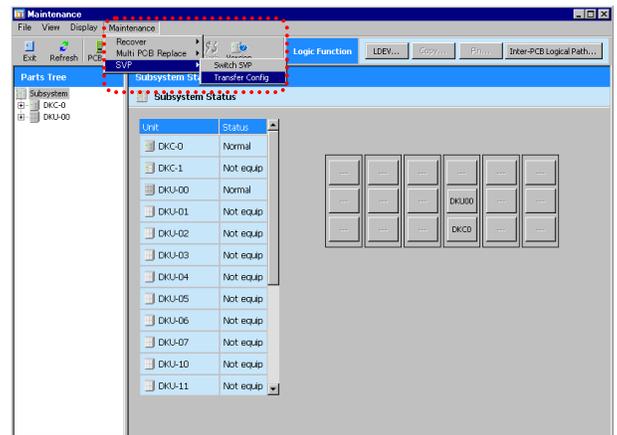
(1) <Operation Mode Change>

Change the mode to [Modify Mode].

Select (CL) the [Maintenance] button.

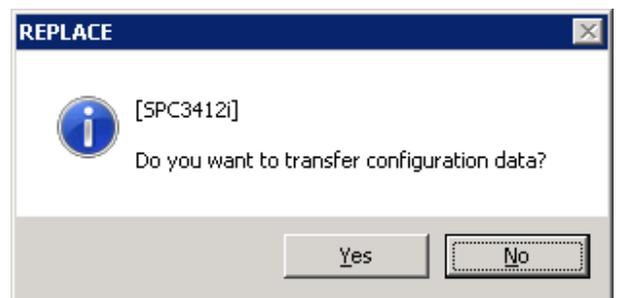
(2)

Select (CL) [Maintenance]-[SVP]-[Transfer Config] from the menu.



(3)

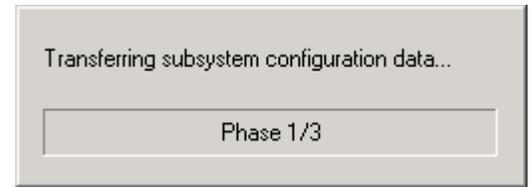
Select (CL) [Yes] for the message “Do you want to transfer configuration data?”.



(4)

The message “Transferring subsystem configuration data...” is displayed.

The SVP transfers the configuration information automatically to reflect the configuration information of the master SVP on the standby side SVP. Therefore, if the transfer processing of the configuration information overlaps, the actually transferred status display may be repeated.

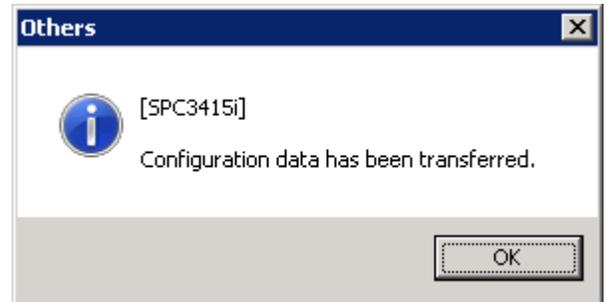


(5)

When configuration data has been transferred, the message “Configuration data has been transferred.” is displayed.

Select (CL) [OK].

If errors occur on the way, check the problems of connection and setting of the replaced SVP (Standby).



(6)

Close the “Maintenance” window.

(7)

Change the SVP mode to [View Mode].

2.20 SFP type change operation

2.20.1 Batch type change

- (1) <Set path offline>



CAUTION

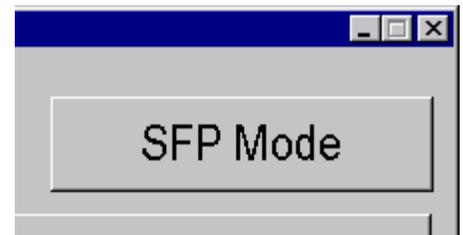
The path to be placed offline is that connected with the SFP concerned.

- (2) <Preparation>
Close the all SVP menu.
-

- (3) <Input password>
Select “Shift” + “Ctrl” + “F” on the SVP window.
Enter the password “RAID-SFP” and select (CL) [OK].



- (4) <Check the mode>
The 'SFP Mode' is Displayed.



- (5) <Replace SFP>
Refer HARDWARE RTC6 ([REP03-24-10](#)).

(6) <Set path online>



CAUTION

The path to be placed online is that connected with the SFP concerned.

2.20.2 Changing type specification

- (1) <Set path offline>

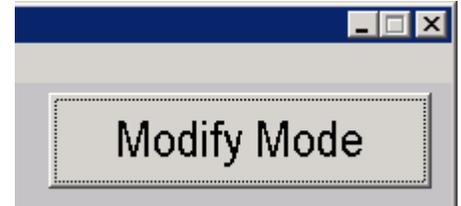


CAUTION

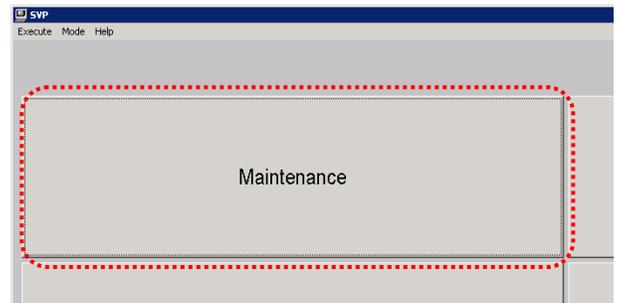
The path to be placed offline is that connected with the SFP concerned.

- (2) <Preparation>
Close each menu of the starting SVP entirely.

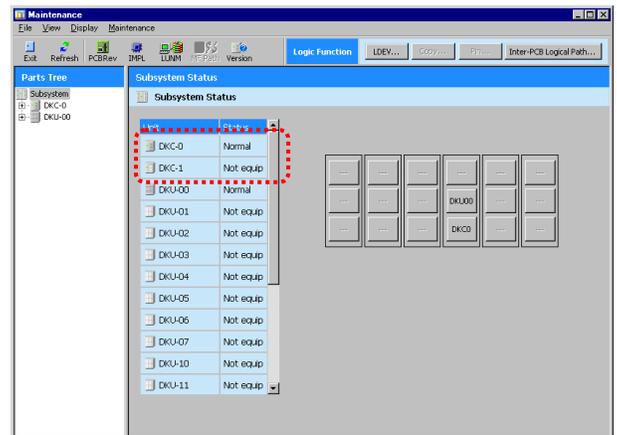
- (3) <Start>
Change the mode to [Modify Mode].



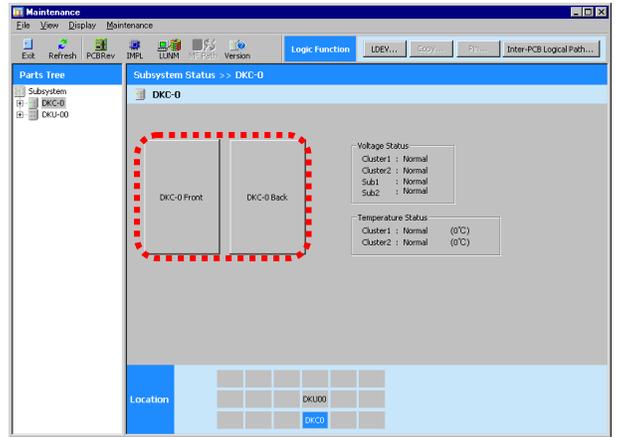
Select (CL) the [Maintenance] in the 'SVP' window.



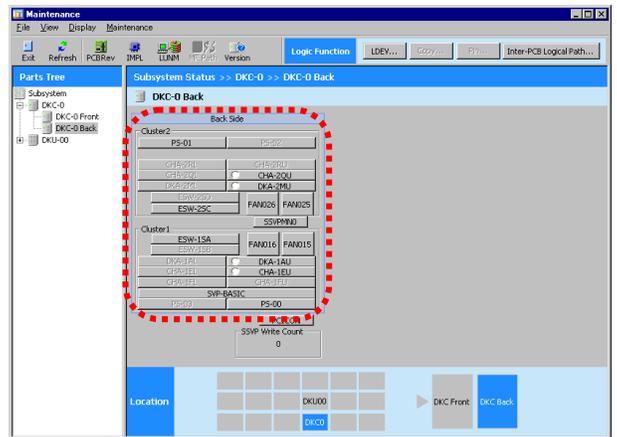
- (4) <Instruction of DKC-n Information>
Select (CL) [DKC-n].



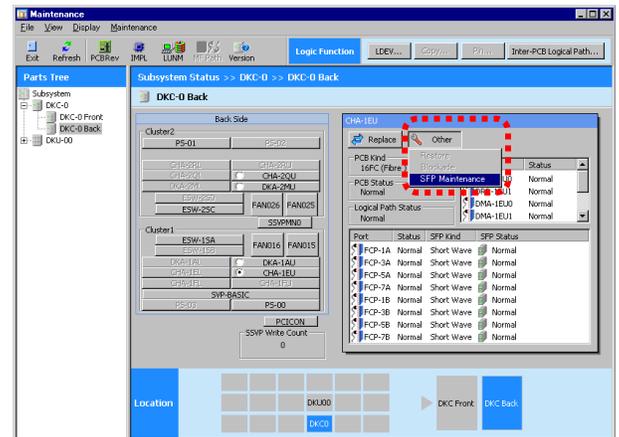
- (5) <Display of DKC-n Back Information>
Select (CL) [DKC-n Back].



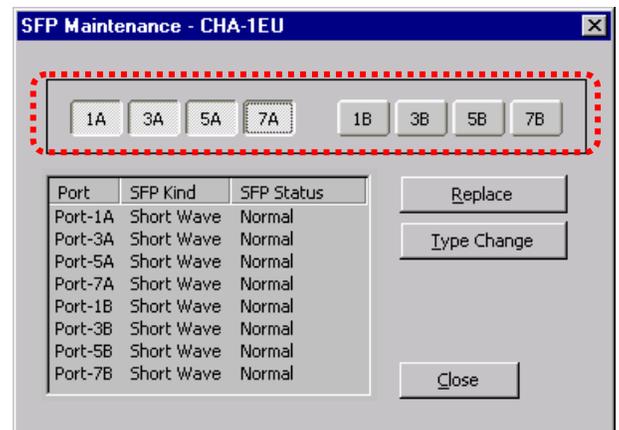
- (6) <Display of CHA Information>
Select (CL) [CHA-nXX] which installs SFP of the maintenance target.



- (7) <Start of SFP Maintenance Window>
Select (CL) [Other] – [SFP Maintenance].



- (8) <Instruction of SFP Type Change>
Select (CL) the ports to change the type (it is possible to select two or more), and select (CL) [Type Change].



(9) <Enter the password>

Notice:

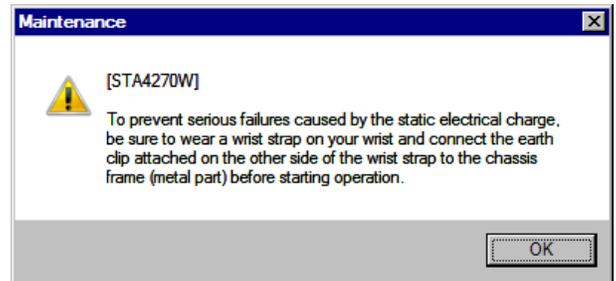
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Enter the password and select (CL) [OK].



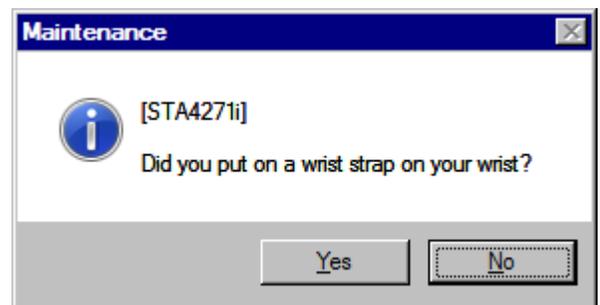
(10) <Wear a wrist strap>

Select (CL) [OK] in response to “To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.”.



“Did you put on a wrist strap on your wrist?” is displayed.

select (CL) [Yes] and go to Step (11).



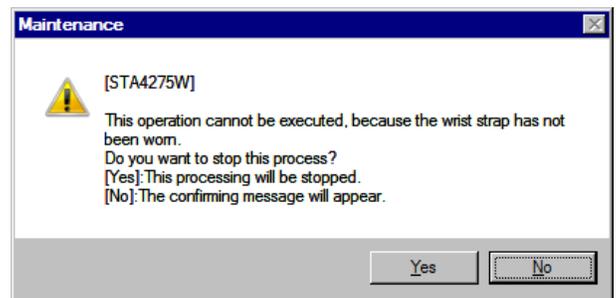
“This operation cannot be executed, because the wrist strap has not been worn.

Do you want to stop this process?

[Yes] : This processing will be stopped.

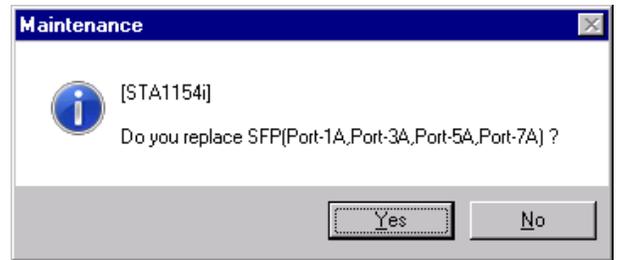
[No] : The confirming message will appear.” is displayed.

When the processing will be stopped, select (CL) [Yes].



(11) <Confirming execution of the change>

After making sure that the port for which the type change is to be executed, select (CL) the [Yes] button in response to the message, “Do you replace SFP(Port-nn, ...) ?”.



(12) <Replacing the SFP>

A message, “Please replace the “SFP(Port-nn, ...)” After replacement, press OK.” is displayed.

(Select (CL) [OK] after replacing the SFP.)
Refer to the hardware part replacement procedure RTC6 (on page [REP03-24-10](#)).



(13) <Set path online>

 **CAUTION**

The path to be placed online is that connected with the SFP concerned.

2.21 Setting Synchronization Information

2.21.1 Setting Synchronization Information

[Outline]

This function sets the SVP's time automatically using the SNTP protocol. To use this function, it is required that an SNTP server exists in the same LAN in which the SVP exists. After the setting is made, the SVP resets the time by referring to the specified IP address for the current time once a day at the specified time. When the setting is not made, the SVP does not make the reference.

Note: To use this function, it is required that an SNTP server exists in the same LAN in which the SVP exists.

The SVP's Time Zone is the G.M.T. (Greenwich mean time). If the other Time Zone is used, the SVP's time may not be set correctly.

This function does not work when the SVP is being maintained or the setting is being made through Storage Navigator. In such a case, the setting is postponed until the next day.

In case time set goes wrong, check a setup of a SNTP server's IP address, and a use port, and give the mode as View mode after a setup again. Moreover, the cause by the side of a SNTP server can be considered as other factors.

Note:

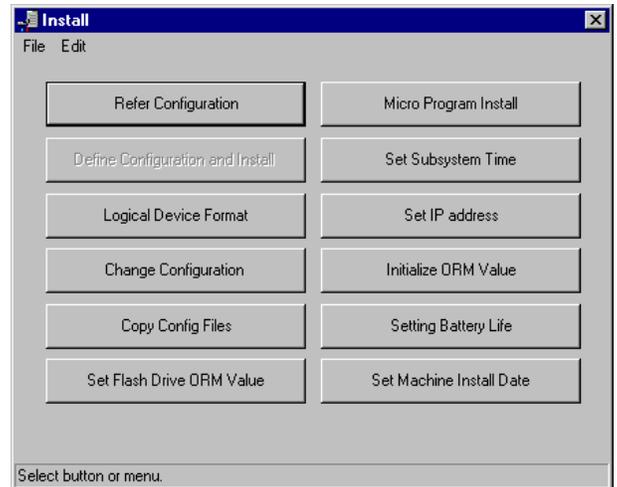
- Please do not execute the P/S ON procedure at the synchronization check time.
- Please do not execute collecting the LCP Dump at the synchronization check time.
- Please do not execute the port error recovery operation using the restart switch function at the synchronization check time.

Note: In the case that there is PVOL of XRC in this DKC and the amount of Sidefiles reach to the threshold, XRC pair may be suspended.

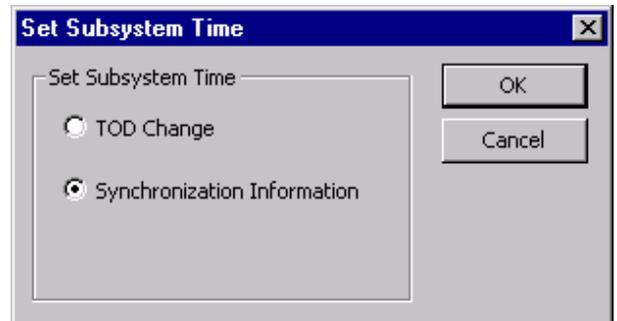
- (1)
Change the mode from [View Mode] to [Modify Mode].
-

- (2)
Select (CL) [Install] in the [Modify Mode] panel.
-

- (3)
Select (CL) [Set Subsystem Time] in the
'Install' window.

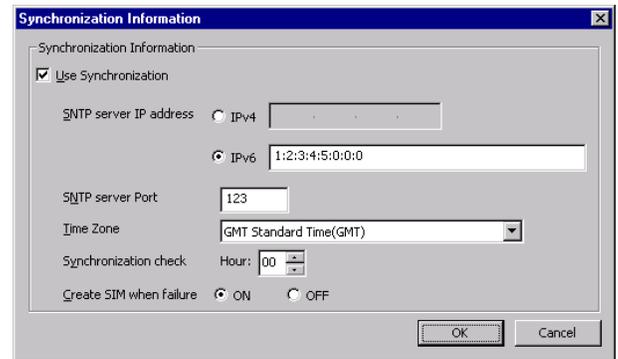


- (4)
Select (CL) [Synchronization Information] in
the 'Set Subsystem Time' window, and then
select (CL) [OK].



(5)

A window for specifying information for compensating the SVP's time is displayed. Set the necessary information and select (CL) [OK].



(Example: In the case of GMT standard time)

- Use Synchronization : In case of checking it, this function is valid.
 In case of no checking it, this function is invalid.
- SNTP server IP address : IP address of the SNTP server
- SNTP server Port : Port (0 to 65535) used by the SNTP server
- Time Zone : Time zone of local time
- Synchronization check : Time to reset the SVP's time (0 to 23, time of 24-hour clock)
- Create SIM when failure: Create SIM when synchronization information setting failure.
 (ON is create. OFF is not create.)

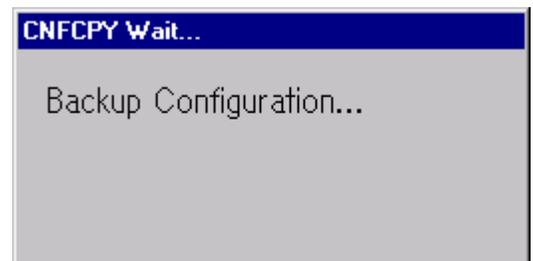
Note: The SVP TOD Set up need to be adjusted to local time until the SNTP time synchronization occurs at the hour set up in "Synchronization Check hour".

Note: Localities with Daylight savings changes will have an offset of one hour when the day time savings starts. Please not that Windows Automatic Daylight savings is not to be set on the SVP PC.

Note: Since the OS of SVP cannot set IPv6 in the Windows XP environment, do not enter it.

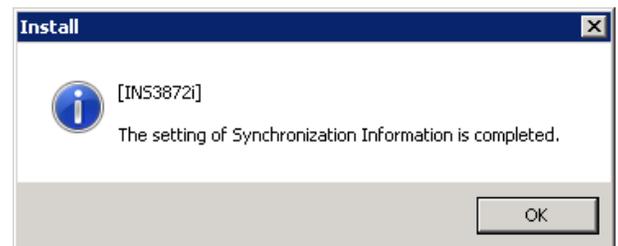
(6)

"Back up Configuration..." is displayed.



(7)

"The setting of Synchronization Information is completed." is displayed. Select (CL) [OK].



(8)

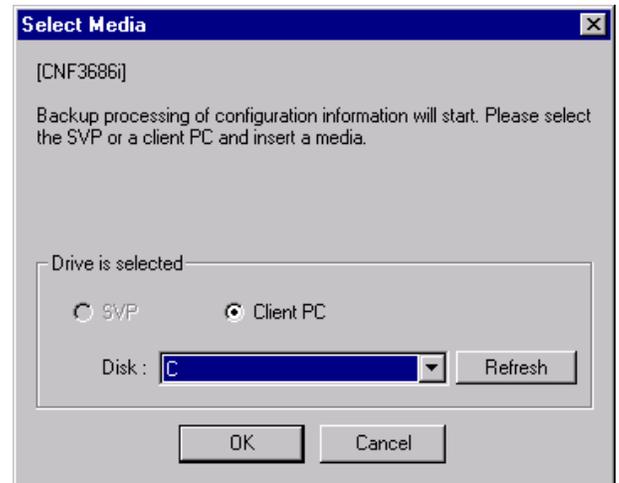
Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

Please select (CL) the [Refresh] button, and update drive information.

Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

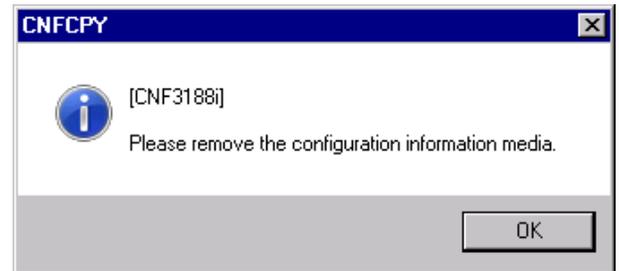
Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



(9)

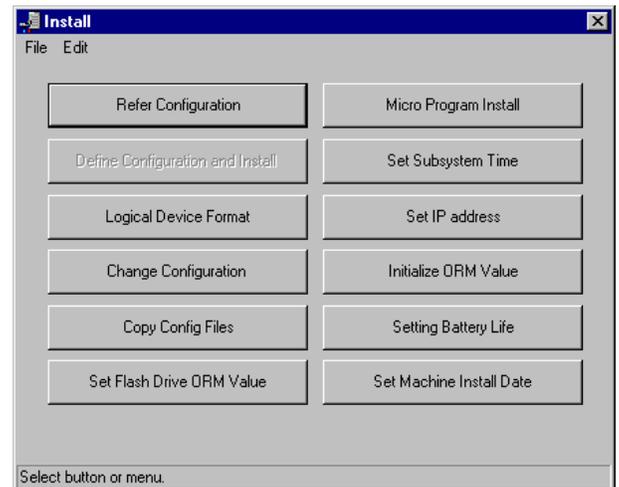
When this procedure is completed, the message "Please remove the configuration information media." is displayed.

Remove the configuration information media, Select (CL) [OK].



(10)

Close the 'Install' window.



2.21.2 Confirm Setting Synchronization Information

- (1) Select (CL) [Programs]-[Accessories]-[Command Prompt] from the [Start] menu.
-

- (2) Execute command “Ping X.X.X.X” (X.X.X.X is SNTP server IP address).
Confirm it is displayed with “Reply from X.X.X.X: bytes=32 time<Xms TTL=XXX”.

When it was displayed with “Request timed out.”, stop confirmation work.

Confirm network connection with SNTP server, and please set Synchronization Information again.

- (3) For confirmation, set temporary Synchronization check in now time of SVP, following the procedure “2.21.1 Setting Synchronization Information”.
(An example: If the existing time of SVP is 13:XX, set 13 to Synchronization check.)
-

- (4) Change the mode to [View Mode] from [Modify Mode] (CL).
(SVP carry out synchronization at the time by changing in View Mode.)
-

- (5) Wait for one minute, confirm that there are not the following SSB LOG. If there is not it, SVP can communicate normally.

Code=3348 : Setting failure of the SNTP time.(Connection failure to a server)

Code=3349 : Setting failure of the SNTP time.(Server does not reply)

Code=334A : Setting failure of the SNTP time.(Practice error)

When SSB LOG is created, please confirm it about setting of a use port, the Synchronization check time. If there setting are right, please confirm to a manager of an SNTP server. Please set Synchronization Information again.

- (6) Following the procedure “2.21.1 Setting Synchronization Information”, set the setting.
Set Synchronization check following the subsystem worksheet.
-

2.22 Fixed time SVP reboot setting

2.22.1 Fixed time SVP reboot the setting method

[OverView]

Reboot of SVP is automatically performed at the time specified once per day by confirming this setup. Moreover, reboot is not performed when SVP is in the following states. In that case, reboot is postponed till the next day.

- When SVP is in Modify mode
- When Storage Navigator is used(except for the HP type.)
- When Web Console is used
- When FD is inserted

Note: When the SVP High Reliability Kit is installed, information transmission to Standby SVP is performed once per day. The time of fixed time reboot should set up by placing from transmission time for 1 hour. If it sets up within 1 hour from transmission time, information transmission to Standby SVP may not be performed correctly. For example, please set up by avoiding 14:00 from 13:00 with the equipment which transmits at 13:00.

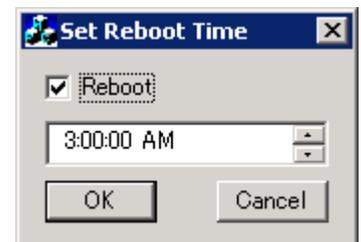
Note: When the SVP High Reliability Kit is installed, information transmission to Standby SVP is performed once per a day. The Standby SVP reboots for the application after the information transfer. Even if a Standby SVP does not have setting of periodical reboot, Standby SVP reboots. For example, Standby SVP reboots at around 13:30 with the equipment which transmits at 13:00. The time of a reboot changes by transfer information quantity.

(1)

Select (CL) [Run...] from the [Start] menu. Enter “c:\dkc200\mp\pc\RbtSet.exe” in the “Open” box. Select (CL) the [OK] button.

(2)

Since the screen which sets up reboot time is displayed, reboot time is inputted and a check is attached to [Reboot]. Select (CL) the [OK] button.



(3)

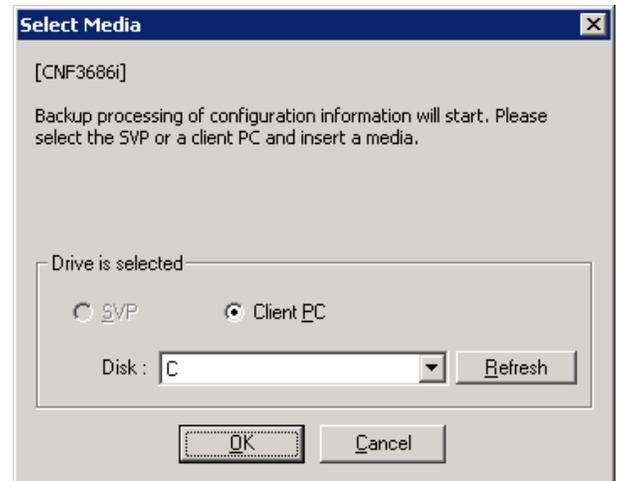
Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

Please select (CL) the [Refresh] button, and update drive information.

Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

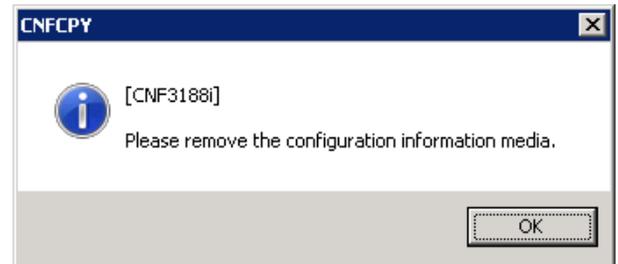
Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



(4)

When this procedure is completed, the message “Please remove the configuration information media.” is displayed.

Remove the configuration information media, select (CL) [OK].



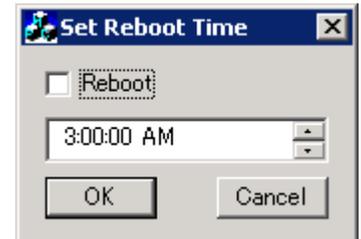
2.22.2 Fixed time SVP reboot the setting release method

(1)

Select (CL) [Run...] from the [Start] menu. Enter “c:\dkc200\mp\pc\RbtSet.exe” in the “Open” box. Select (CL) the [OK] button.

(2)

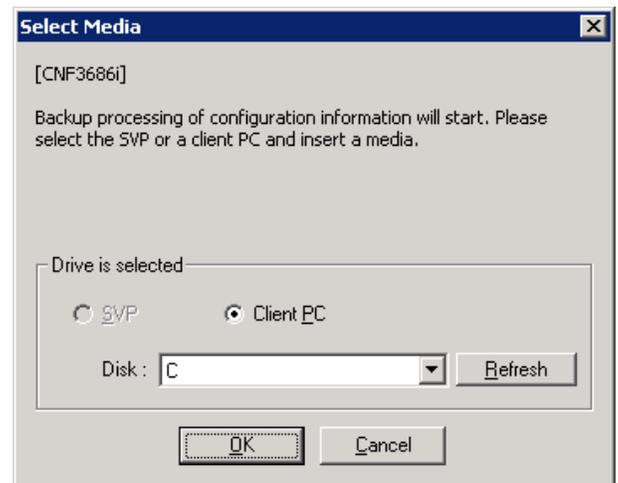
Since the screen which sets up reboot time is displayed, The check of [Reboot] is removed. Select (CL) the [OK] button.



(3)

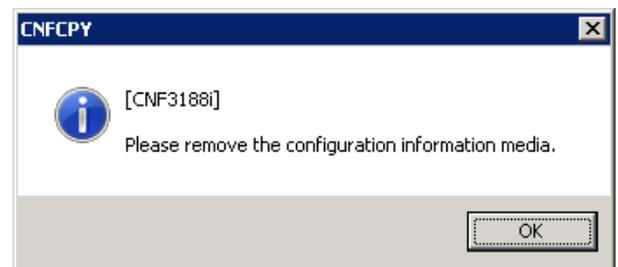
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



(4)

When this procedure is completed, the message “Please remove the configuration information media.” is displayed.
Remove the configuration information media, select (CL) [OK].



2.23 (Blank)

SVP02-1640

2.24 (Blank)

2.25 Restoring Failed MP

CAUTION

This is a special procedure to recover a MP blockade operation without the need to self-replace the card under certain conditions specified below.

To use this procedure, please open a case with your technical support center and proceed under their guidance.

<Usage Conditions>

- To recover a MP in which WCHK1 occurred due to a microprogram problem.
Eg.) Cause of WCHK1 is EC = 1644.
- To recover a MP in which WCHK1 occurred due to an issue outside the DKC (Host/SAN).
Eg.) Cause of WCHK1 is EC = B405, and it is evident that it is caused by external factor.
(Switch etc.)
- Requested as a recovery procedure for an issue notified by an Early Notice/Alert.
- Requested by following the procedure described in Maintenance Manual.

<Usage Restrictions>

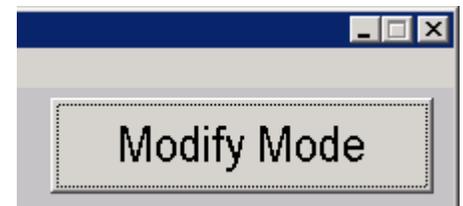
- Not to be used to recover hardware failures.
- Not to be used to recover a MP of MPB which all MP in MPB blocked.

(1) <Preparation>

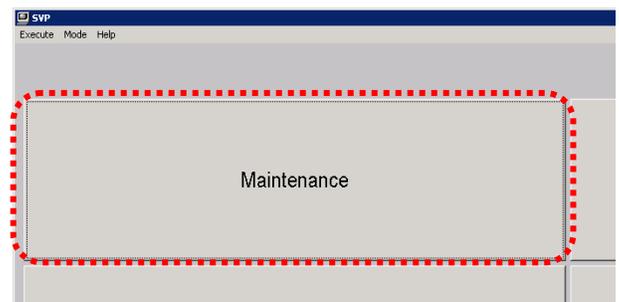
Close each menu of the starting SVP entirely.

(2) <Start>

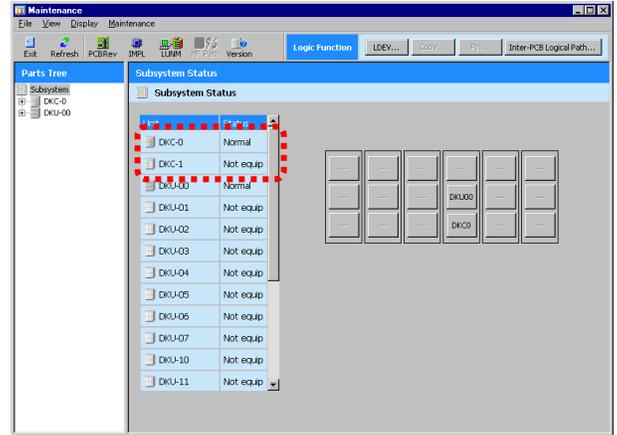
Change the mode to [Modify Mode].



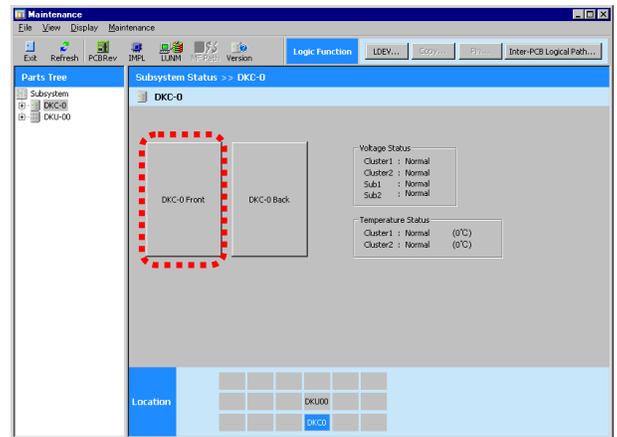
Select (CL) the [Maintenance] in the 'SVP' window.



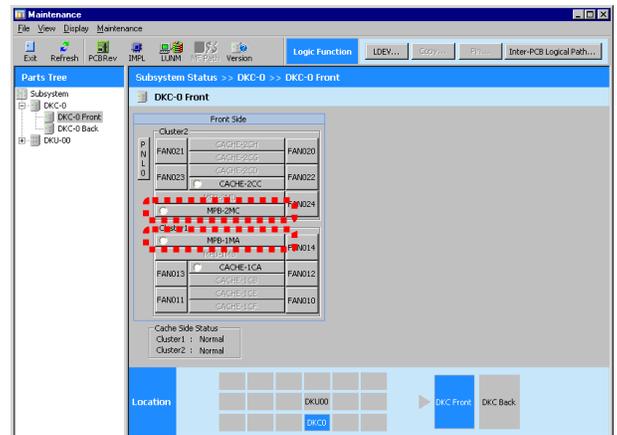
- (3) <Display of DKC Information>
 Select (CL) [DKC-n].



- (4) <Display of DKC Front Information>
 Select (CL) [DKC-n Front].
 (n: DKC number which installs MP of the maintenance target)



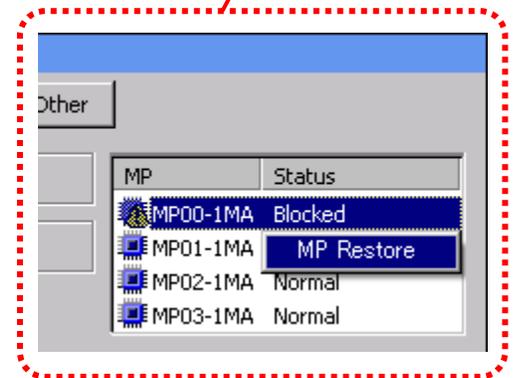
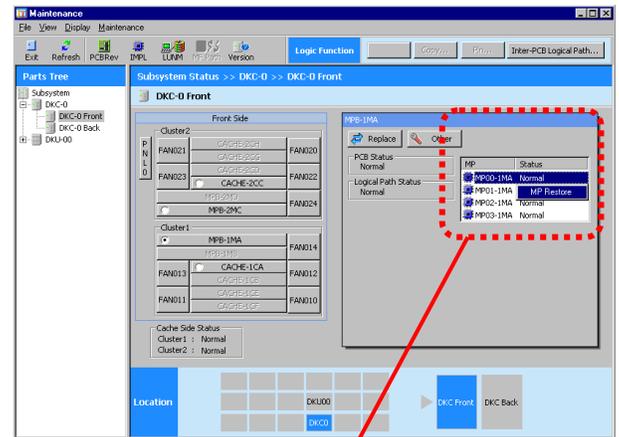
- (5) <Display of MP PCB Information>
 Select (CL) [MP-nXX] which installs MP of the maintenance target.



(6) <Execution>

Select (CL) the right button of the mouse in the status that MP of the maintenance target on the MP information list is selected (CL).

Select (CL) [MP Restore] in the displayed popup menu.



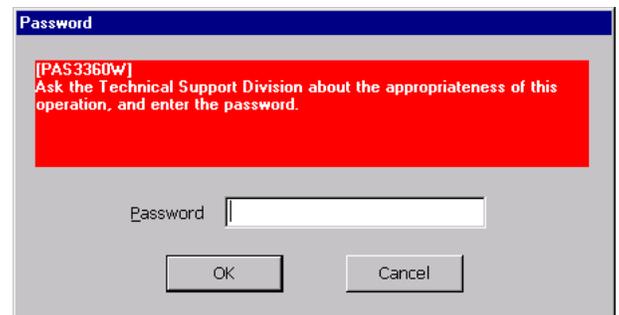
(7) <Password Input>

Notice:

When the blockade of MP attributes to a hardware failure, it is possible that subsystem down or data lost occurs. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Ask the Technical Support Division about the appropriateness of this operation, and enter the password.”

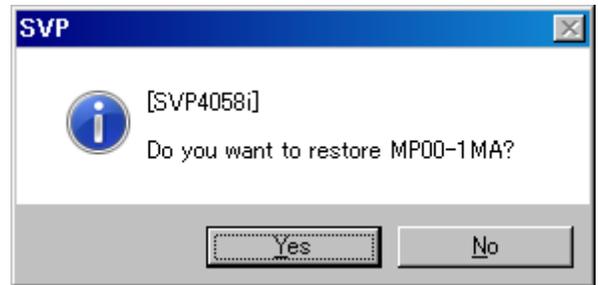


(8) <Execution Check>

Select (CL) the [Yes] button for the following message.

“Do you want to restore X?”

X: Target MP



(9) <Waiting for the completion of processing>

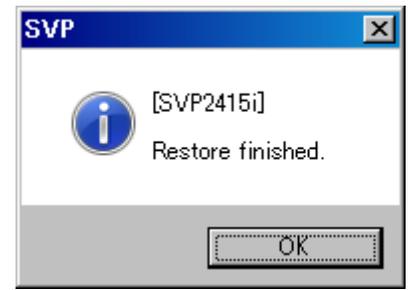
The following message is displayed.

“Please wait... Restoring the MP...”

(10) <Check of the recovery completion of failed MP>

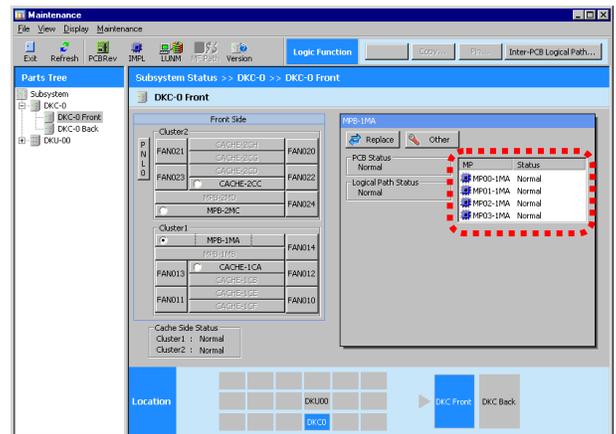
Select (CL) [OK] for the following message.

“Restore finished.”



(11) <Check of processing result >

Check the status of the target MP with ‘DKC-n Front’ in the ‘Maintenance window’.



(12) <Post-processing>

Close the ‘Maintenance’ window.

Change the mode to [View Mode].

2.26 System Tuning SVP Procedure

2.26.1 System Tuning

 **CAUTION**

Powering off/on is required owing to the performance of this operation.

 **CAUTION**

- The Case where IP Address is changed from System Tuning, when SVP High Reliability kit is installed.

When SVP High Reliability kit is installed, Both Master SVP and Standby SVP need to be set IP Address.

Firstly set IP Address of Standby SVP. (Refer to [INST05-50](#))

After completing it, please set the IP Address of Master SVP.

Although "RC=7ff200" may occur, there is no problem. Please complete SIM before operation.

Overview

This function modifies the part of established subsystem configuration data.

The data to be modified is control data closely related to a host device, so the data cannot be modified on on-line.

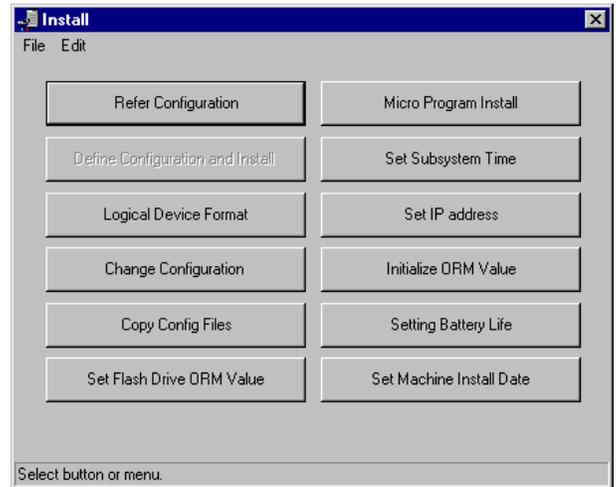
After modification of the data, power DKC off and on.

The data to be modified is listed below.

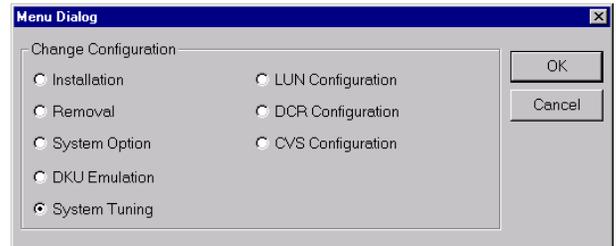
'DKC Configuration' ----- DKC Serial Number
 'System Option' ----- Number of MPLs/CU Number for TPF
 'IP Address Configuration' ----- IP address
 'DKC Emulation Configuration' ----- DKC Emulation Type
 'CU Number' ----- CU number of each channel port
 'Set SSID Boundary' ----- Sub System ID Boundary
 'Subsystem ID Configuration' ----- Sub System ID

1. <Start [Install]>
Change the Mode from [View Mode] to [Modify Mode].
Select [Install] from 'SVP' (CL).

2. Select [Change Configuration] (CL) from 'Install'.



3. <Select System Tuning>
Select [System Tuning] from 'Menu Dialog' (CL), and select [OK] (CL).



4.

⚠ CAUTION

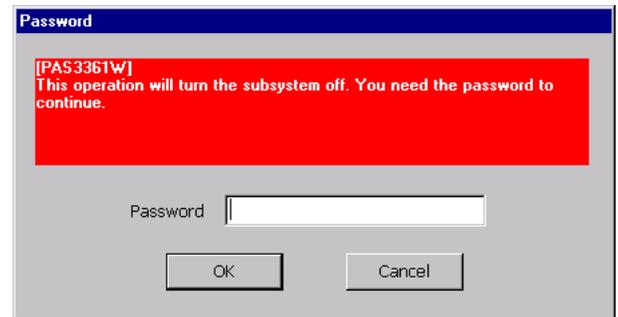
Powering off/on is required owing to the performance of this operation.

Ask the technical support division about the appropriateness of the operation, and input a password after getting an approval of executing the operation.

(1)

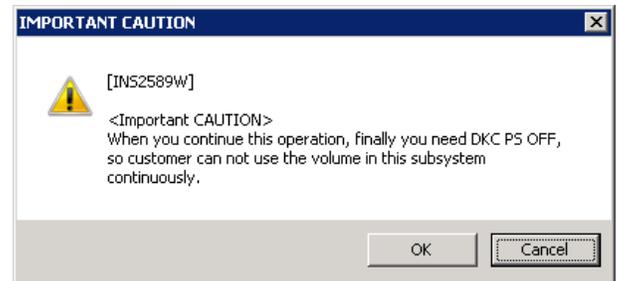
Enter the password and select [OK] (CL).
Password is needed for this operation.
Please call Technical Support Division to obtain a password and authorization.

If [Cancel] is selected (CL),
return to Step 2.



(2)

Select (CL) [OK] in response to the confirmation message
“<Important CAUTION>
When you continue this operation, finally you need DKC PS OFF, so customer cannot use the volume in this subsystem continuously.”.



5. <DKC Configuration window>

Define the configuration information following the subsystem configuration worksheet.

[System Option...]: Makes a setting of the number of MPLs/CU Number for TPF.

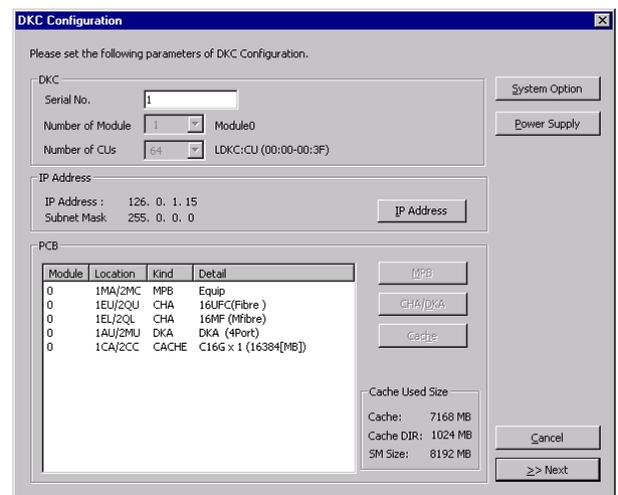
Go to Step 6.

[IP Address Configuration]: Makes a setting of the IP address. Go to Step 7.

[>>Next]: Makes the other settings.

Go to Step 8.

In the case of selecting (CL) [Cancel], this operation procedure terminates.



6. <System Option window>

Define the configuration information following the subsystem configuration worksheet.

After setting all the items, select (CL) the [OK] button. Return to Step 5.

When the [Cancel] button is selected (CL), the 'System Option' window is closed and the 'DKC Configuration' window is displayed again. Return to Step 5.

The screenshot shows the 'System Option' window with the following settings:

- Spare Disk Recover:** Interleave, Full Speed
- Disk Copy Pace:** Slower, Medium, Faster
- Copy Operation:** Correction Copy, Dynamic Sparring
- Read Configuration Data Mode:** Fixed Serial number
- Link Failure Threshold:** 0
- TPF:** TPF Enable, Number of MPLs: 4096, 16384
- CU Number:** 00-3F

Buttons: WR.Through, Cancel, OK

7. <IP Address Configuration window>
Define the configuration information following the subsystem configuration worksheet.

Set the IP address and the subnet mask, and then select (CL) the [OK] button. Return to Step 5.

8. <Mainframe PCB Configuration window>
Define the configuration information following the subsystem configuration worksheet.

[DKC Emulation]: Sets the DKC emulation. Go to Step 8-2.
[CU Num...]: Sets the CU number of each port. Go to Step 8-1.

Select (CL) the [>>>Next] button. Go to Step 8-3.

When the [Before<<] button is selected (CL), return to Step 5.

Port	HTP/FNP	CU Number(LDKC:CU)	Emulation
1C	HTP	00:00:FE	I-2107
3C	HTP	00:00:FE	I-2107
5C	HTP	00:00:FE	I-2107
7C	HTP	00:00:FE	I-2107
1D	HTP	00:00:FE	I-2107
3D	HTP	00:00:FE	I-2107
5D	HTP	00:00:FE	I-2107
7D	HTP	00:00:FE	I-2107

Port	HTP/FNP	CU Number(LDKC:CU)	Emulation
2C	HTP	00:00:FE	I-2107
4C	HTP	00:00:FE	I-2107
6C	HTP	00:00:FE	I-2107
8C	HTP	00:00:FE	I-2107
2D	HTP	00:00:FE	I-2107
4D	HTP	00:00:FE	I-2107
6D	HTP	00:00:FE	I-2107
8D	HTP	00:00:FE	I-2107

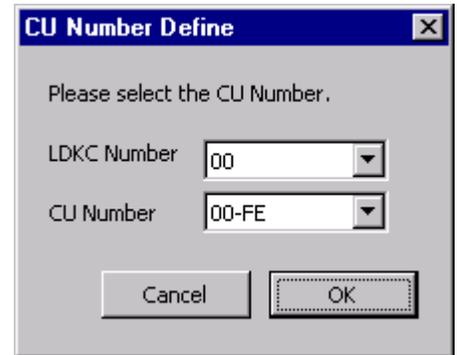
Note: This is displayed only when the Mfibre (8M) channel is installed.

8-1 <CU Number Define window>

A window for setting the CU number of the specified port is displayed.

After the setting is completed, select (CL) the [OK] button.

When the [Cancel] button is selected (CL), the window is returned to that of Step 8.

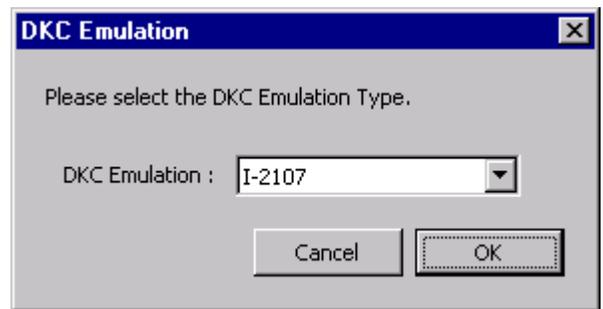


8-2 <DKC Emulation window>

Set the 'DKC Emulation' and select (CL) the [OK] button. Return to Step 8.

Select (CL) the [Cancel] button.

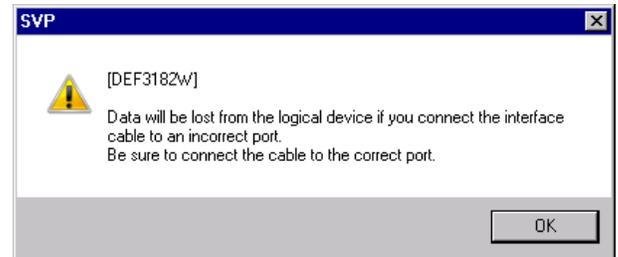
Return to Step 8.



8-3 <SVP message>

Select (CL) [OK] in response to the confirmation message "Data will be lost from the logical device if you connect the interface cable to an incorrect port. Be sure to connect the cable to the correct port."

Go to step 9.



Note: This windows is displayed when Mfibre (8M) Channel is installed.

Blank Sheet

9. <Subsystem ID Configuration window>

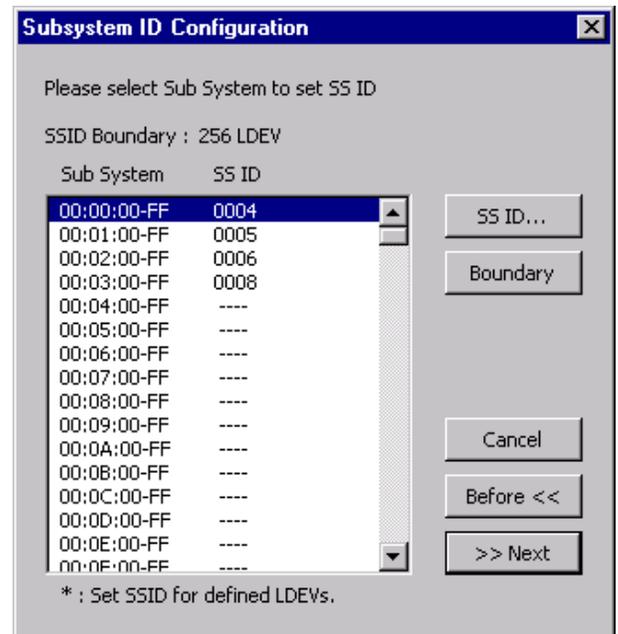
Define the configuration information following the subsystem configuration worksheet.

[SSID...]: Makes definition of the subsystem ID. Go to Step 9-1.

[Boundary]: Makes definition of the subsystem ID boundary. Go to Step 9-2.

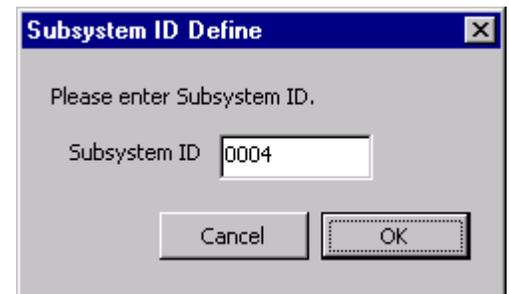
After the setting is completed, select (CL) the [>>>Next] button. Go to Step 10.

This operation procedure is completed when the [Cancel] button is selected (CL).



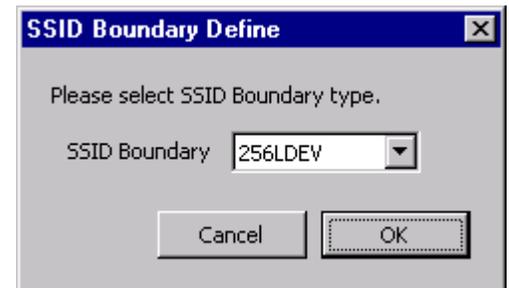
9-1 <Subsystem ID Define window>

Define the subsystem ID and select (CL) the [OK] button. Return to Step 9.



9-2 <SSID Boundary Define window>

Define the subsystem ID boundary and select (CL) the [OK] button. Return to Step 9.

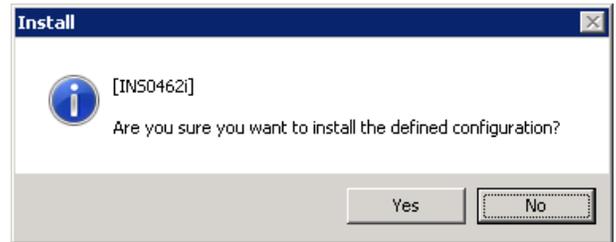


10. <Include configuration information>

(1)

Select (CL) [Yes] in response to the confirmation message “Are you sure you want to install the defined configuration?”.

Selecting (CL) [No] suppresses the configuration inclusion processing and terminates the installation procedure.

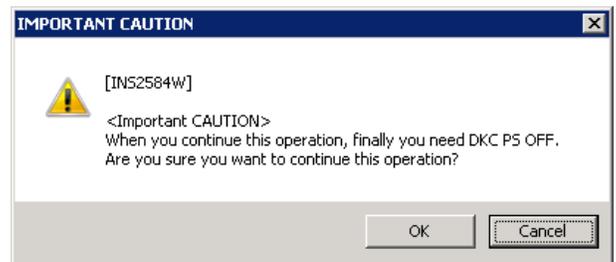


(2)

Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

When you continue this operation, finally you need DKC PS OFF. Are you sure you want to continue this operation?”.



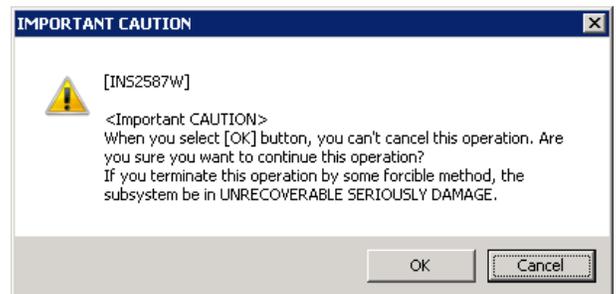
(3)

Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

When you select [OK] button, you can't cancel this operation. Are you sure you want to continue this operation?

If you terminate this operation by some forcible method, the subsystem be in UNRECOVERABLE SERIOUSLY DAMAGE.”.

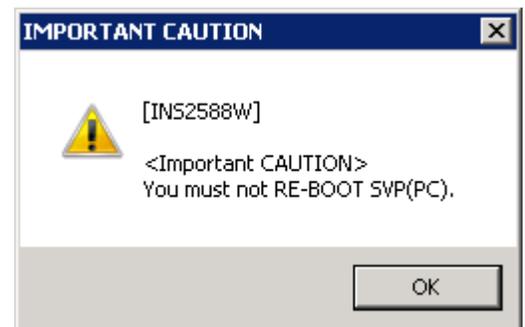


(4)

Select (CL) [OK] in response to the confirmation message

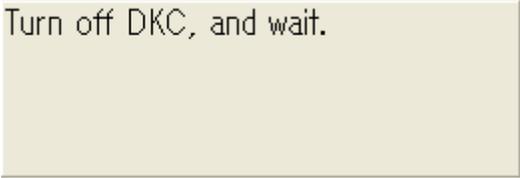
“<Important CAUTION>

You must not RE-BOOT SVP(PC).”.



11.

Make sure that “Turn off DKC, and wait.” is displayed and perform the power-off procedure from the DKC maintenance panel.

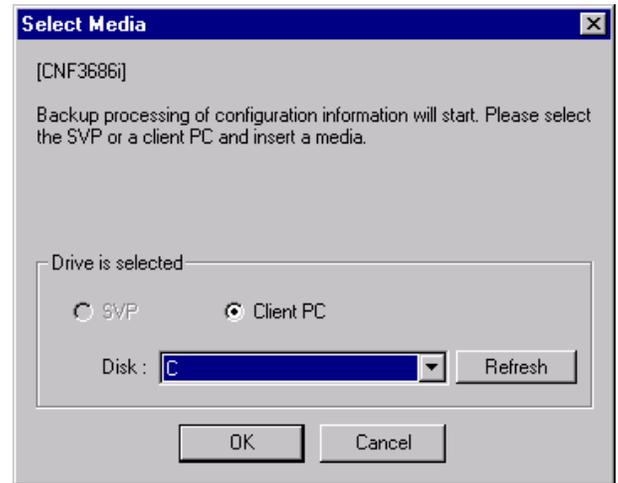


Turn off DKC, and wait.

12.

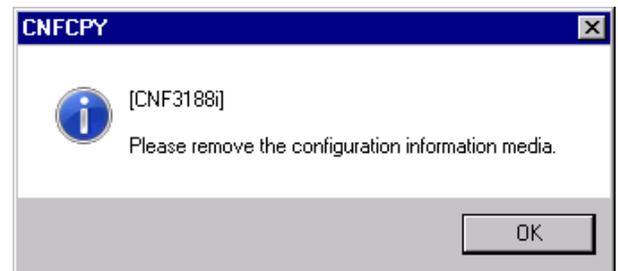
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



13.

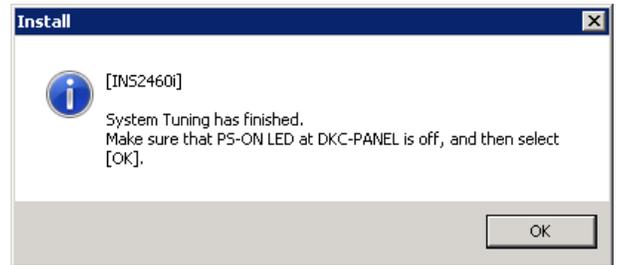
When this procedure is completed, the message “Please remove the configuration information media.” is displayed.
Remove the configuration information media, Select (CL) [OK].



14.

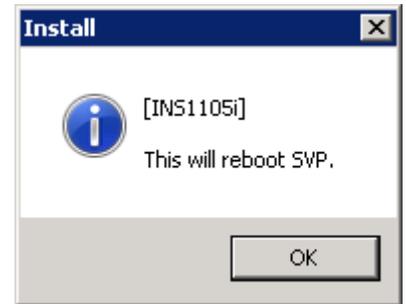
After making sure that the DKC power is turned off, select [OK] (CL) in response to “System Tuning has finished. Make sure that PS-ON LED at DKC-PANEL is off, and then select [OK].”.

Note: The SVP power will not turn off even when DKC is powered off.



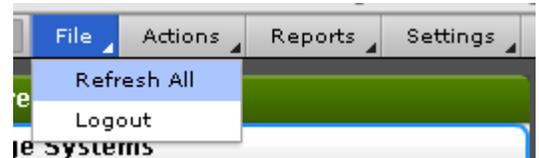
15.

“This will reboot SVP.” is displayed. Select [OK] (CL).



16.

Please select (CL) [File]-[Refresh All] from the menu and update the information on the Web Console window when the Web Console window is displayed after reboot of SVP.



2.27 Failed Cache recovery

CAUTION

This is a special procedure to recover a Cache blockade operation without the need to self-replace the card under certain conditions specified below.

To use this procedure, please open a case with your technical support center and proceed under their guidance.

[Failed Cache recovery]

<Usage Conditions>

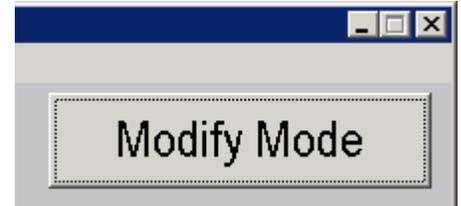
- Requested as a recovery procedure for an issue notified by an Early Notice/Alert.
- Requested by following the procedure described in Maintenance Manual.

<Usage Restrictions>

- Not to be used to recover hardware failures.

- (1) <Preparation>
Close each menu of the starting SVP entirely.

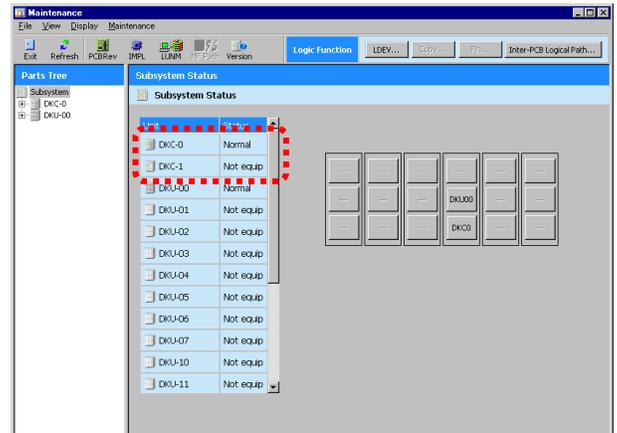
- (2) <Start>
Change the mode to [Modify Mode].



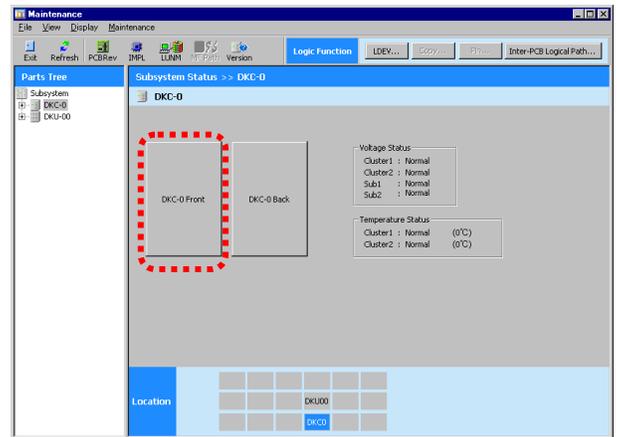
Select (CL) the [Maintenance] in the 'SVP' window.



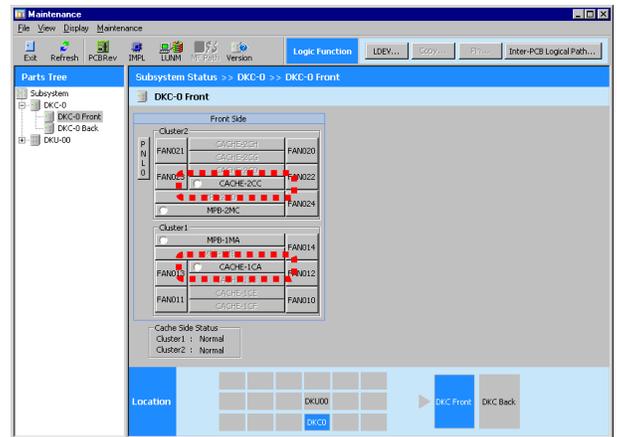
- (3) <Display of DKC Information>
Select (CL) [DKC-n].



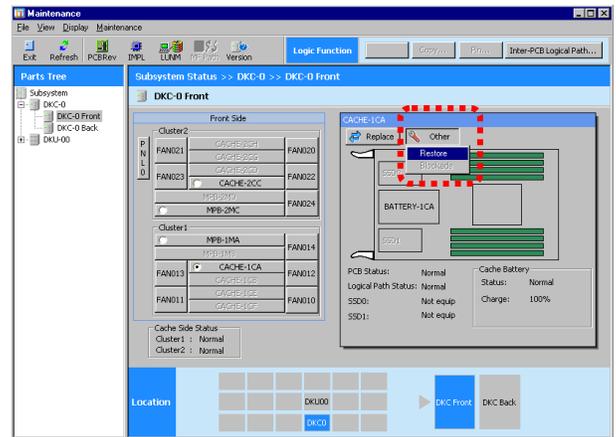
- (4) <Display of DKC Front Information>
 Select (CL) [DKC-n Front].
 (n: DKC number which installs Cache of the maintenance target)



- (5) <Display of Cache Information>
 Select (CL) [CACHE-nXX] of the maintenance target.



- (6) <Execution>
Select (CL) [Other] – [Restore].



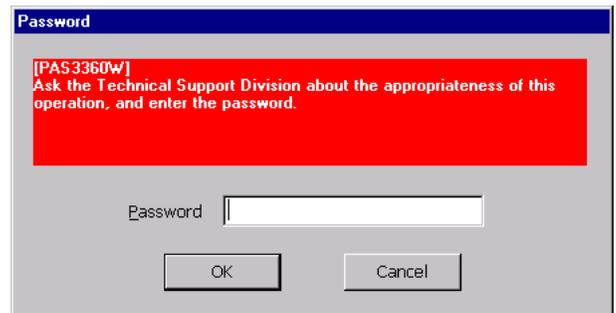
- (7) <Password Input>

Notice:

When the blockade of PCB attributes to a hardware failure, it is possible that subsystem down or data lost occurs. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.

“Ask the Technical Support Division about the appropriateness of this operation, and enter the password.”

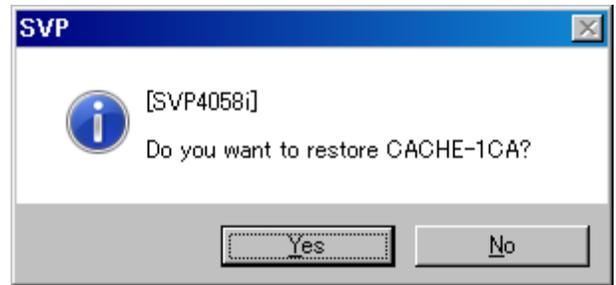


(8) <Execution Check>

Select (CL) the [Yes] button for the following message.

“Do you want to restore X?”

X: Target PCB



(9) <Waiting for the completion of processing>

The following message is displayed.

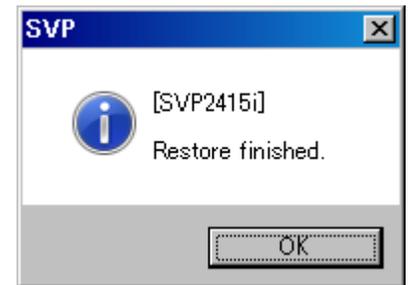
“Please wait... Restoring the X...”

X: Target PCB

(10) <Check of the recovery completion>

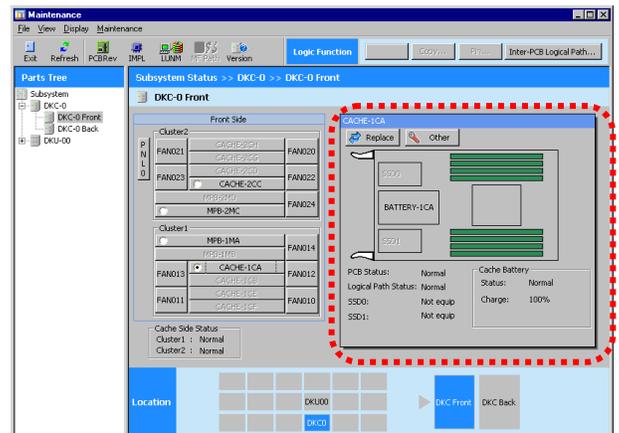
Select (CL) [OK] for the following message.

“Restore finished.”



(11) <Check of processing result >

Check the status of the target PCB with
'DKC-n Front' in the 'Maintenance window'.



(12) <Post-processing>

Close the 'Maintenance' window.

Change the mode to [View Mode].

2.28 Setting IP address

- [1] In case of SVP and DKC ----- SVP02-1850
 [2] In case of SVP ----- SVP02-1880

[1] In case of SVP and DKC

(1)

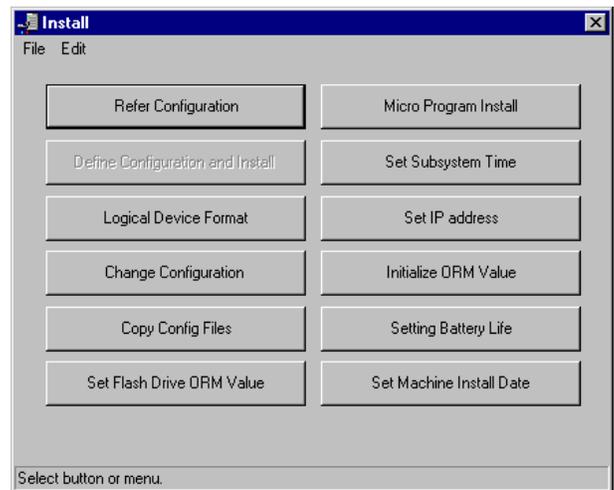
Change the mode from [View Mode] to [Modify Mode].

(2)

Select (CL) [Install] from the ‘SVP’ window.

(3)

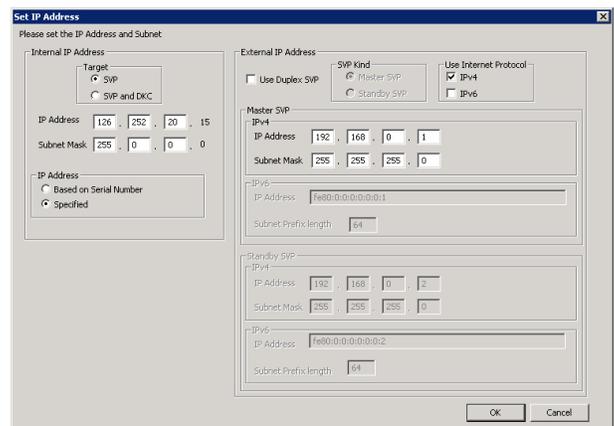
Select (CL) [Set IP address] from the ‘Install’ window.



(4) <Changing IP address>

Select (CL) “SVP and DKC” in the “Target” of the “Internal IP Address”, and select (CL) [OK] after setting the IP Address and Subnet Mask of “Internal IP Address” and the “External IP Address”.

Note: When the Subnet Mask of Internal IP Address is set with a value different from the DKC, the previous value of the Subnet Mask might be displayed after setting. When the value that has been set is not displayed, set the value that corresponds with the DKC again.



(5) <Rebooting SVP>

Select (CL) [OK] to the message “This will reboot SVP.”.

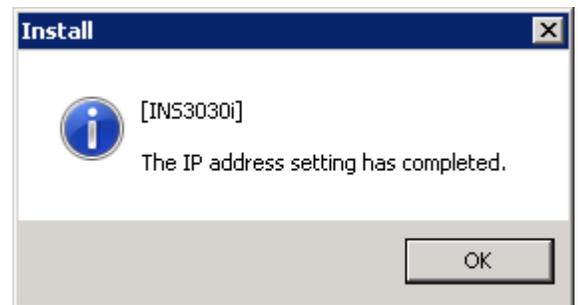
When the message “Failed to change IP address.” is displayed, changing the IP address ended as an abnormal end. Identify the cause of the error according to the procedure ([TRBL05-560](#)) described in the troubleshooting section.

**CAUTION**

When remote connection of the Client PC is disconnected during this operation, reconnect with the changed IP address and continue this operation. Perform the reconnection by waiting for 5 minutes or more after clicking the [OK] of the [INS1105i] message. (Refer to [SVP01-60](#) regarding the operation for connecting to the SVP)

(6) <IP address setting completed>

Select (CL) [OK] for “The IP address setting has completed”.



(7) <Backup for configuration information>

- ① Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

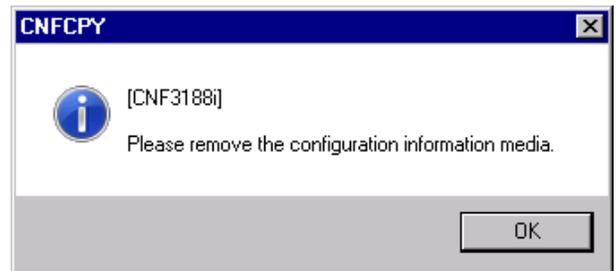
Please select (CL) the [Refresh] button, and update drive information.

Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



- ② When backup of configuration information is completed, the message “Please remove the configuration information media.” is displayed. Remove the configuration information media and select (CL) [OK].



[2] In case of SVP

(1)

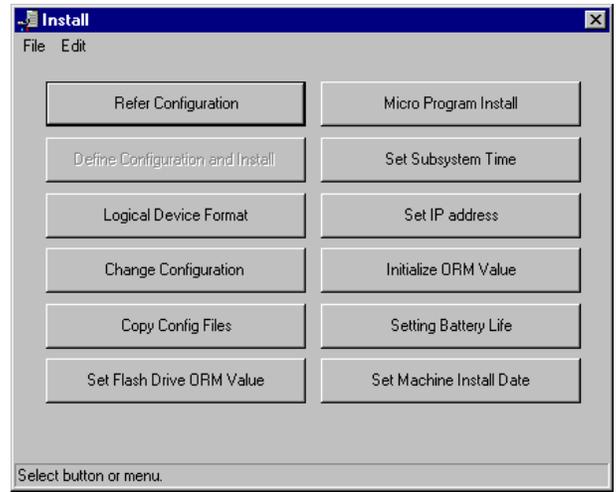
Change the mode from [View Mode] to [Modify Mode].

(2)

Select (CL) [Install] from the ‘SVP’ window.

(3)

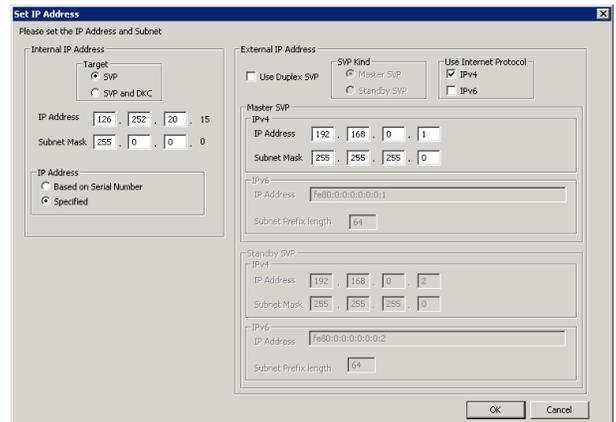
Select (CL) [Set IP address] from the ‘Install’ window.



(4) <Changing IP address>

Select (CL) “SVP” in the “Target” of the “Internal IP Address”, and select (CL) [OK] after setting the IP Address and Subnet Mask of “Internal IP Address” and the “External IP Address”.

Note: When the Subnet Mask of Internal IP Address is set with a value different from the DKC, the previous value of the Subnet Mask might be displayed after setting. When the value that has been set is not displayed, set the value that corresponds with the DKC again.



(5) <Backup for configuration information>

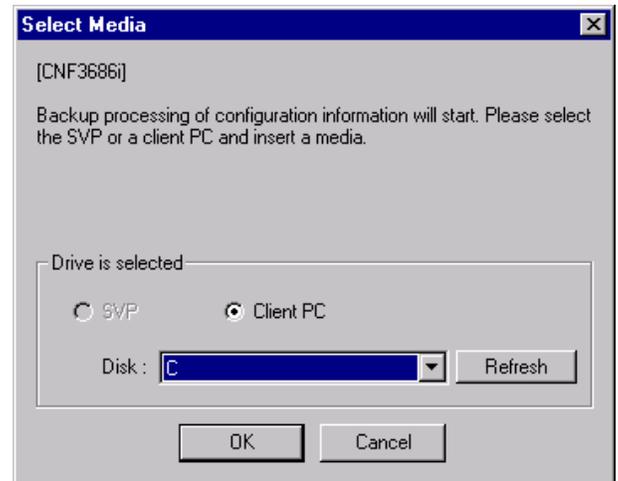
- ① Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

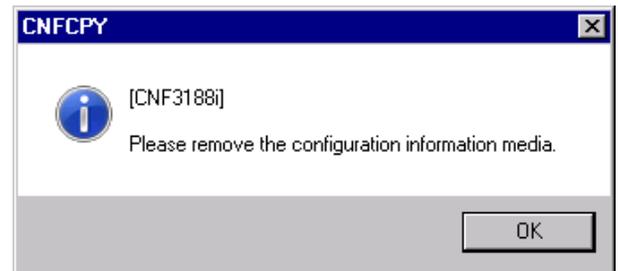
Please select (CL) the [Refresh] button, and update drive information.

Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



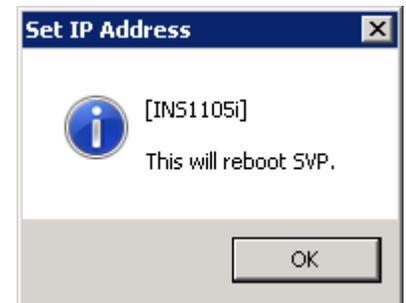
- ② When backup of configuration information is completed, the message “Please remove the configuration information media.” is displayed. Remove the configuration information media and select (CL) [OK].



- ③ <Rebooting SVP>

Select (CL) [OK] to the message “This will reboot SVP.”.

When the message “Failed to change IP address.” is displayed, changing the IP address ended as an abnormal end. Identify the cause of the error according to the procedure ([TRBL05-560](#)) described in the troubleshooting section.



2.29 Use of OnlineDumpTool

Caution: OnlineDumpTool is a tool to be installed in the CE Laptop PC, not to operate on the SVP.

[Conditions to run the tool]

OS : Windows XP (32bit), Windows Vista (32bit/64bit), Windows 7 (32bit/64bit)

Browser : Microsoft Internet Explorer Version6 or later

2.29.1 Installation

[1] Pre-check

Please check if a PC to be installed can access to Internet using a browser, Internet Explorer.

[2] Installation of tool

Please create a folder where you wish in your PC to be installed, and copy the following file:

OnlineDumpUpload-a.exe

“-a” stands for a version of the tool (a to z)

[3] Settings

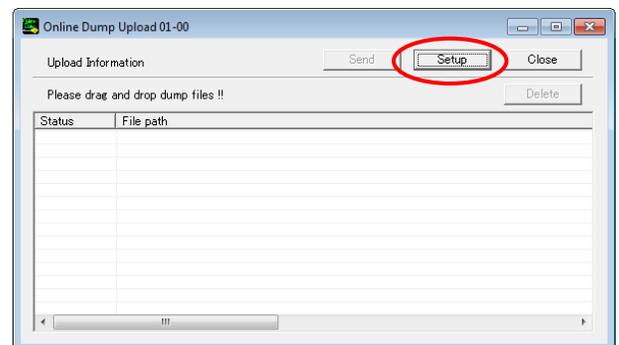
(1)

Select (DC) “OnlineDumpUpload-a.exe”.



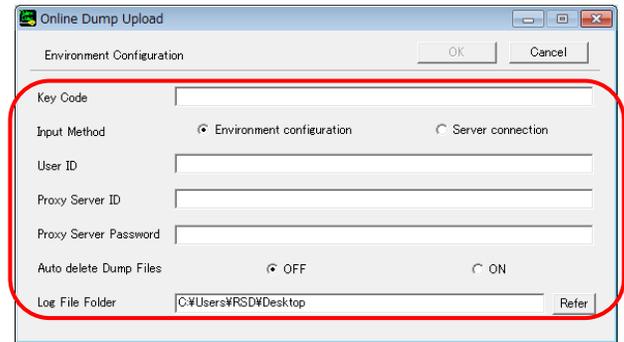
(2)

The ‘Upload Information’ window is displayed, and then select (CL) [Setup].



(3)

The 'Environment Configuration' window is displayed, and then set the following values: "Key Code", "Input Method", "User ID", "Proxy Server ID", "Proxy Server Password", "Auto Delete Dump Files", and "Log File Folder".



(a) Key Code

Input a "Key Code" informed by an administrator.

(b) Input Method

Select whether the "User ID", "Proxy Server ID" and "Proxy Server Password" are set on the tool in advance, or input the values at each uploading of dump file(s).

You can select from the following methods to set "User ID", "Proxy Server ID" and "Proxy Server Password": pre-setting in the tool or

Environment configuration.....Set the values on the tool in advance.

"User ID", "Proxy Server ID" and "Proxy Server Password" are pre-set in the tool. Upon upload operation, you do not need to input these values. Please select this input method normally.

Server connection.....Input the values at each uploading of dump file(s).

Upon every upload operation, you need to input "User ID", "Proxy Server ID" and "Proxy Server Password". If you wish to share a CE Laptop PC with someone else and keep these values secret, please select this input method.

(c) User ID

Input a User ID informed by an administrator.

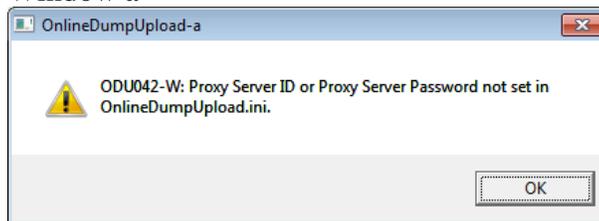
Do not input User ID when the Server connection is selected in the step (b).

(d) Proxy Server ID/Proxy Server Password

If there is a Proxy Server in your network environment for which the CE Laptop PC uploads a dump, input an ID and password of Proxy Server.

Case#	Network environment			Setting			
	Proxy Server Exist/ None Exist	Proxy Server password Exist/ None Exist	How to check	Input Method setting			
				Environment configuration		Server connection	
				Proxy Server ID	Proxy Server Password	Proxy Server ID	Proxy Server Password
Case 1	Exist	Exist	If you input ID and password when accessing to Internet using a browser (Internet Explorer©), then your network environment is Case 1.	Input Proxy Server ID.	Input Proxy Server password.	No setting necessary	
Case 2	Exist	None Exist	If: - your network environment is not Case 1; and - window "a" is displayed, when setting Proxy Server ID & Password as blank and selecting [OK] in the step (4).	No setting necessary	No setting necessary		
Case 3	None Exist	None Exist	If: - your network environment is not Case 1; and - window "a" is not displayed, when setting Proxy Server ID & Password as blank and selecting [OK] in the step (4).	No setting necessary	No setting necessary		

Window a



(e) Auto Delete Dump Files

If "Auto Delete Dump Files" is ON, after upload completes, an original file uploaded will be automatically erased.

OFF : not automatically erased

ON : automatically erased

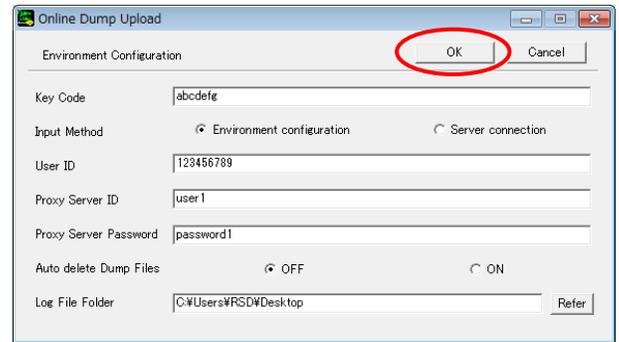
(f) Log File Folder

A location of a folder in which history files are stored is specified here.

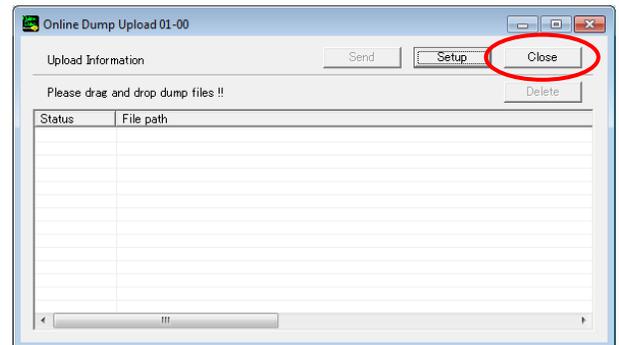
The default value is the same folder as the tool is stored.

A folder can be selected by selecting (CL) [Refer].

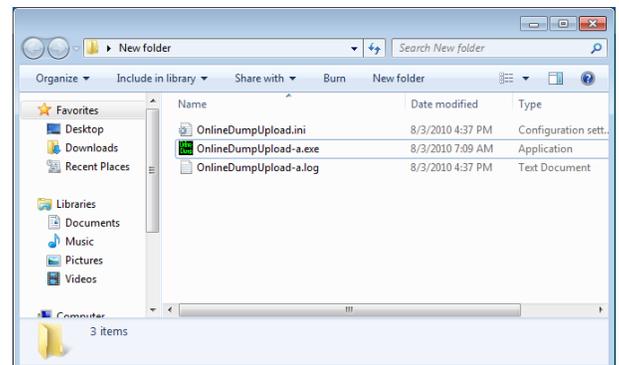
- (4) Select (CL) [OK] in the 'Environment Configuration' window.



- (5) Select (CL) [Close] in the 'Upload Information' window.



- (6) The following files are created in the same folder as OnlineDumpUpload-a.exe is stored:
OnlineDumpUpload.ini
OnlineDumpUpload-a.log (property: hidden file)



2.29.2 Uninstallation

When you uninstall the tool, please delete the following files:

OnlineDumpUpload-a.exe

OnlineDumpTool.ini

OnlineDumpUpload-a.log (property: hidden file)

Up-loadingResult.log (property: hidden file)

Up-loadingResult_YYMMDD-nn.txt

(YY: year, MM: month, DD: date, -nn: automatically-assigned sequential number)

2.29.3 Upload procedure

There are two different procedures for uploading.

Both of the uploading procedures are the same except for the way of starting the tool.

Choose either of uploading procedure depending on their features.

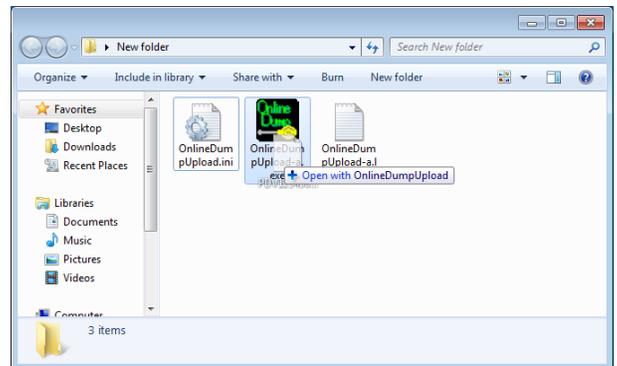
Upload a dump file by dragging and dropping it onto the OnlineDumpTool.	
Feature	Easy operation that uploads dump file(s) by one click operation.
Procedure	From (1-1) to (1-3).

Execute uploading by running OnlineDumpTool.	
Feature	Uploading all dump files at once after confirming the file names.
Procedure	From (2-1) to (2-6).

(1) The procedure for uploading dump files onto the OnlineDumpTool by dragging and dropping.

(1-1)

Drag and drop a dump file you wish to upload onto the OnlineDumpUpload-a.exe icon.

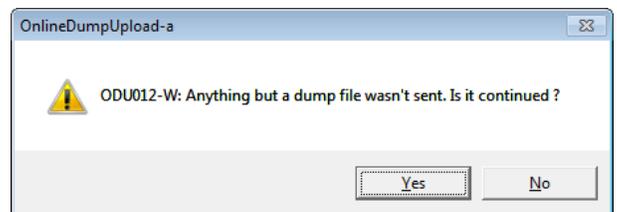


NOTE:

- Multiple files can be uploaded at a time.

- Any files except for a dump file cannot be uploaded.

If you select other files, then the following window is displayed.



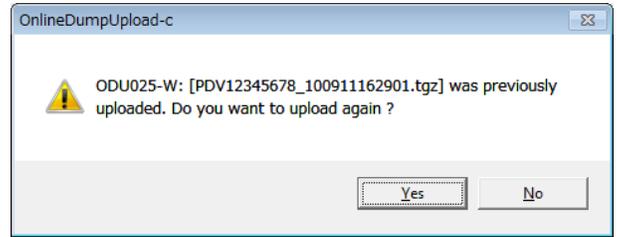
[Yes]: Execute uploading except for the file which was not sent, if multiple files are selected.

[No]: Stop uploading.

- If the same file is re-sent, then the following confirmation message is displayed.

[Yes]: Uploading is executed.

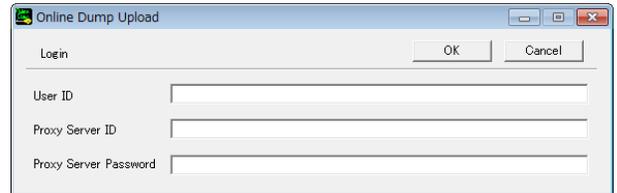
[No]: Uploading is canceled.



(1-2)

When selecting the “Server connection” in the field of “Input Method” in the setting of 2.29.1 (3)-(b), the following ‘Login’ window is displayed.

(The window is not displayed when the “Environment configuration” is selected. Go to step (1-3).)



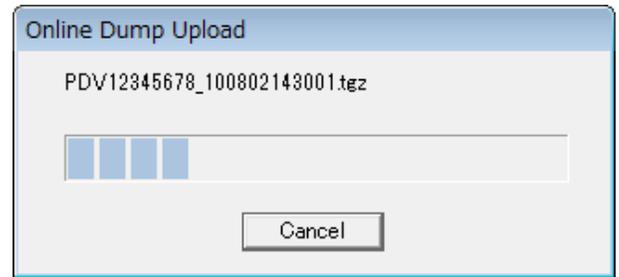
Input “User ID”, “Proxy Server ID”, “Proxy Server Password”, and select (CL) [OK].

Refer to the paragraph 2.29.1 (3)-(d) for the input value of “Proxy Server ID” and “Proxy Server Password”.

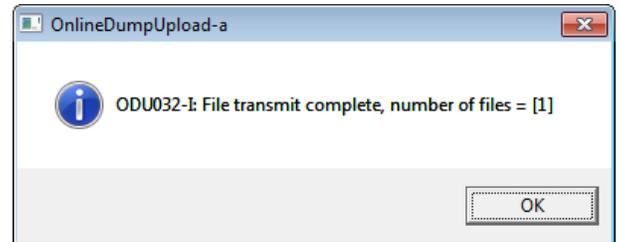
(1-3)

Start uploading

During uploading, the following window is displayed.



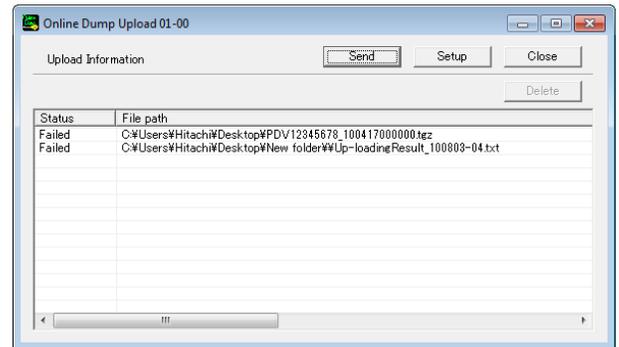
When all selected files are uploaded, the following window is displayed. Select (CL) [OK].



If there is/are file(s) failed to upload in selected files, the following window is displayed.

If you wish to retry uploading, select (CL) [Send].

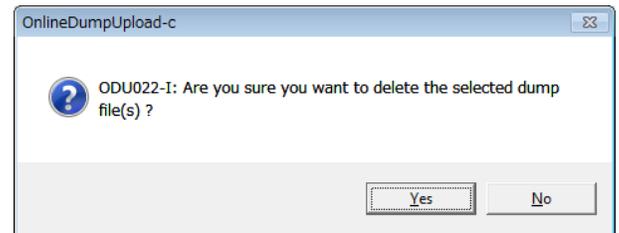
If you wish to exit without retry, select (CL) [Close].



If you set “Auto Delete Dump Files” to ON, in the setting of 2.29.1 (3)-(e), the following window is displayed.

If you wish to delete the original dump file uploaded, select (CL) [Yes]. (*1)

If you do not wish to delete the original dump file uploaded, select (CL) [No].

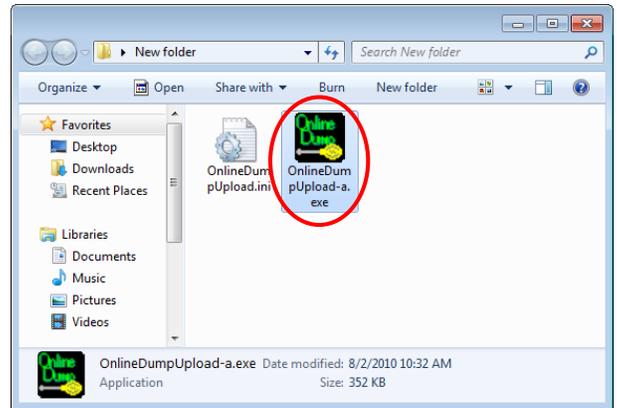


*1: The deleted file is sent to the recycle bin.

(2) The procedure for uploading dump files by running the OnlineDumpTool.

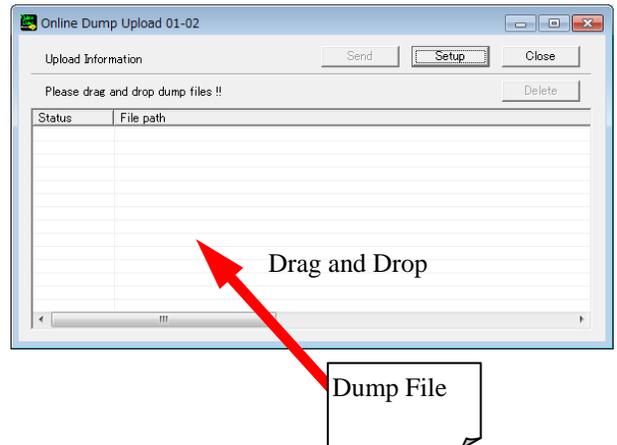
(2-1)

Select (DC) the OnlinedumpUpload-a.exe icon.



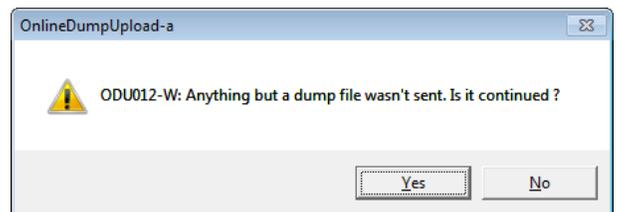
(2-2)

Drag and drop the dump file onto the 'Online Dump Upload' window to upload.



NOTE:

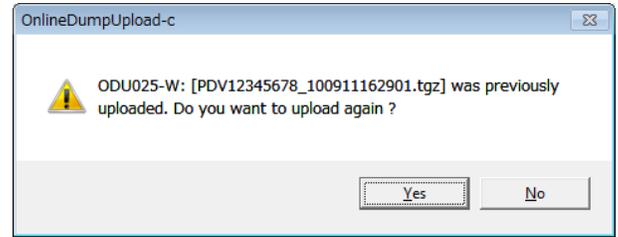
- Multiple files can be uploaded at a time.
 - Uploading files can be added.
 - Any files except for a dump file cannot be uploaded.
If you select other files, then the following window is displayed.
- [Yes]: Execute uploading except for the file which was not sent, if multiple files are selected.
- [No]: Stop uploading.



- When the uploading has completed, the reconfirmation message is displayed.

[Yes]: Uploading is executed.

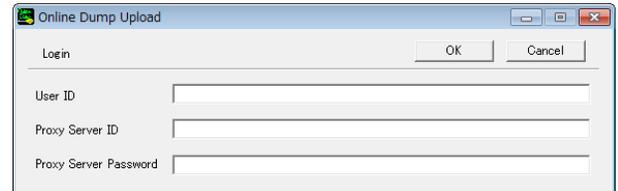
[No]: Uploading is canceled.



(2-3)

When selecting the “Server connection” in the field of “Input Method” in the setting of 2.29.1 (3)-(b), the following ‘Login’ window is displayed.

(The window is not displayed when the “Environment configuration” is selected. Go to step (2-4).)

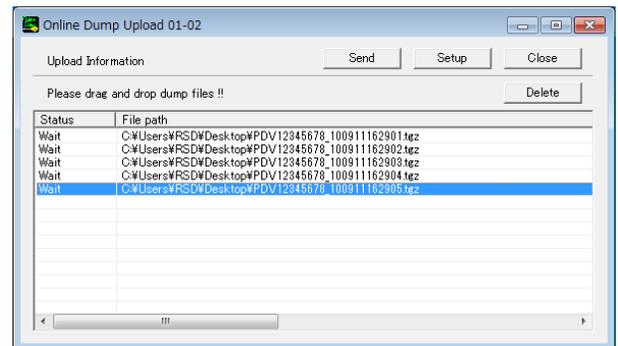


Input “User ID”, “Proxy Server ID”, “Proxy Server Password”, and select (CL) [OK].

Refer to the paragraph 2.29.1 (3)-(d) for the input value of “Proxy Server ID” and “Proxy Server Password”.

(2-4)

Select (CL) [Send] to start uploading.



NOTE:

- Select (CL) a file and [Delete] to delete the selected file from the list.
- Select (CL) [Close] to close the window without uploading.

(2-5)

The uploading window is displayed.

The uploading status is displayed in the Status field during uploading.

Connecting: In the connecting process to the server.

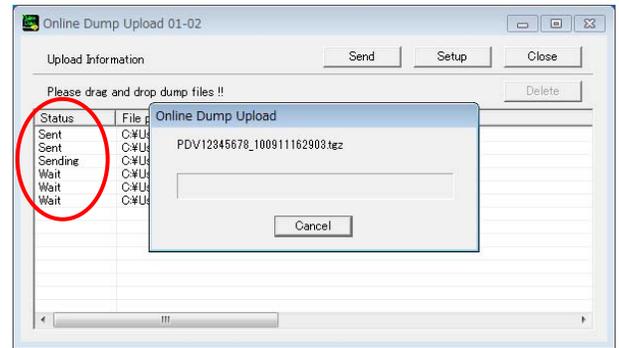
Sending: Uploading.

Sent: Uploaded. (completed)

Wait: Waiting to start uploading.

Failed: The uploading has failed.

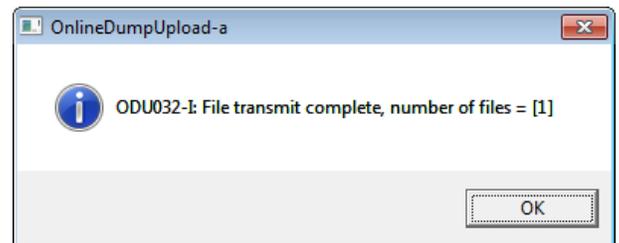
Cancel: The uploading has canceled.



(2-6)

When all selected files are uploaded, the following window is displayed.

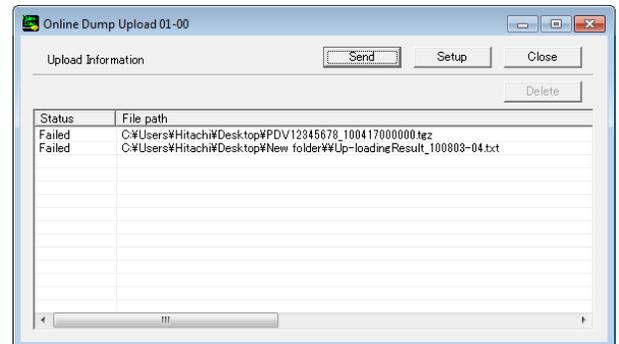
Select (CL) [OK].



If there is/are file(s) failed to upload in selected files, the following window is displayed.

If you wish to retry uploading, select (CL) [Send].

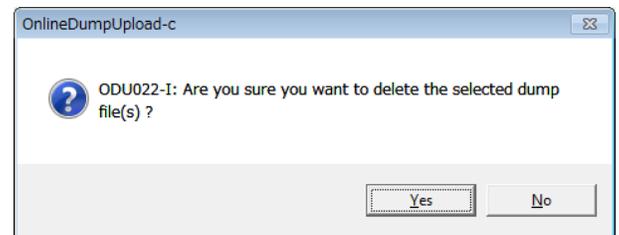
If you wish to exit without retry, select (CL) [Close].



If you set “Auto Delete Dump Files” to ON, before a window showing upload completed is displayed, the following window is displayed.

If you wish to delete the original dump file uploaded, select (CL) [Yes]. (*1)

If you do not wish to delete the original dump file uploaded, select (CL) [No].



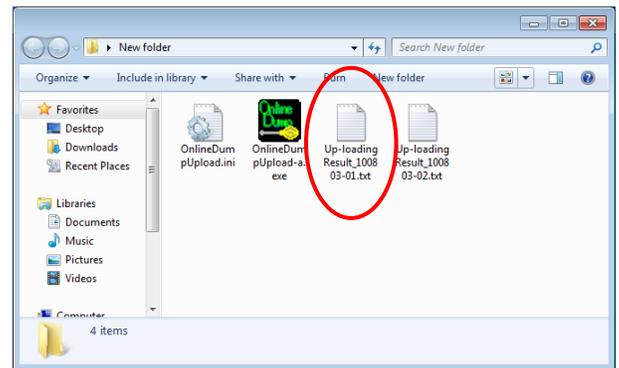
*1: The deleted file is sent to the recycle bin.

2.29.4 Reference of uploaded results

History information of an uploaded file is stored in a txt file.

A folder location is the same folder as specified in 2.29.1 [3] Settings.

A history file is created every transmission.



2.29.5 Message Table

The messages that are displayed on OnlineDumpTool are described below Table 2.29.5-1.

Table 2.29.5-1 Displayed Messages on OnlineDumpTool

Code No.	Items	Contents
ODU004-E	Message	ODU004-E: Login error, URL = [Address1 ~ 4] detail = *1 *1: detail = Check Your ID or Password = Proxy Authentication Required = Multi login = The server name or address could not be resolved = Not expectation HTML = The operation timed out
	Action	detail = Check the key cord when the “Check Your ID or Password” message is displayed. detail = Check the user ID and password of the Proxy server when the “Proxy Authentication Required” message is displayed. detail = Login again after a while when the “Multi login” or “The operation timed out” (There is no response from the Web server.) message is displayed. For other than the above, setup the OnlineDumpTool again.
ODU010-E	Message	ODU010-E: Cannot read OnlineDumpUpload.ini, path = [file path name].
	Cause	The OnlineDumpUpload.ini cannot be read.
	Action	(1) Check whether the OnlineDumpUpload.ini file can be read. (2) Setup the OnlineDumpTool again.
ODU011-W	Message	ODU011-W: Key code or user id not set in OnlineDumpUpload.ini.
	Cause	The key code and user ID are not specified to the OnlineDumpUpload.ini.
	Action	Specify the key code and user ID on Environment configuration screen.
ODU012-W	Message	ODU012-W: Anything but a dump file wasn't sent. Is it continued?
	Cause	The file that cannot be transmitted is included.
	Action	Select [OK] to continue and [Cancel] to discontinue. When [OK] is selected, only the transmittable file is transmitted.
ODU015-E	Message	ODU015-E: Internet API exception happened, detail = [error detail].
	Cause	An unexpected error is detected at HTTP Communication API.
	Action	Setup the OnlineDumpTool again.
ODU022-I	Message	ODU022-I: Are you sure you want to delete the selected dump file(s)?
	Cause	“Auto delete Dump Files” setting is set to [On].
	Action	Select [Yes] to delete the files and [No] to cancel it.

(To be continued)

(Continued from the preceding page)

Code No.	Items	Contents
ODU023-E	Message	ODU023-E: A value was specified incorrectly, detail = [cause of error].
	Cause	The error is detected in the specified value.
	Action	(1) When the detail is "The smallest number of characters"; <ul style="list-style-type: none"> • Specify the string of five characters or more for the account and the key code. • Specify the string of one character or more for the user ID. No spaces allowed. (2) When the detail is "Prohibited character"; Use the alphanumeric characters. (3) When the detail is "Prohibited character string"; Use the string other than below. script, meta, table, body, frame, form, style, background, xmp applet, plaintext, cookie
ODU025-W	Message	ODU025-W: [dump-filename-.tgz] was previously uploaded. Do you want to upload again?
	Cause	The file is an uploaded dump file.
	Action	Select [OK] to upload the files and [Cancel] to cancel it.
ODU026-E	Message	ODU026-E: Cannot write OnlineDumpUpload.ini, section = [section name] key = [key code] value = [value] path = [file path].
	Cause	The OnlineDumpUpload.ini is not able to write.
	Action	(1) Check if the OnlineDumpUpload.ini file exists. (2) Setup the OnlineDumpTool again.
ODU028-W	Message	ODU028-W: Web server was busy. Please execute after wait a moment.
	Cause	The Web server was busy.
	Action	Execute it again after a while.
ODU032-I	Message	ODU032-I: File transmit complete, number of files = [Number of transmitted files]
	Cause	The file transfer is completed.
	Action	None
ODU037-W	Message	ODU037-W: This tool cannot be executed concurrently.
	Cause	This tool has already been running.
	Action	Finish this tool, and operate it with the running tool.
ODU038-W	Message	ODU038-W: Please set Address or Account, detail = [%s].
	Cause	The address or account is not set.
	Action	Setup the OnlineDumpTool again.

(To be continued)

(Continued from the preceding page)

Code No.	Items	Contents
ODU042-W	Message	ODU042-W: Proxy Server ID or Proxy Server Password not set in OnlineDumpUpload.ini.
	Cause	Although the setting of the Proxy Server is "On" in the IE, the Proxy Server ID and the Proxy Server Password are not specified to OnlineDumpUpload.ini.
	Action	Specify the Proxy Server ID and the Proxy Server Password on the Environment configuration screen.
ODU044-W	Message	ODU044-W: Log file folder was not exist, folder = [folder name].
	Cause	The folder that does not exist in the Log file folder was specified.
	Action	Check the folder that is specified for Log file folder. If it does not exist, specify Log file folder again on the Environment configuration screen.
ODU045-W	Message	ODU045-W: The file was drag & drop already, file = [file name]
	Cause	The file has already been dragged and dropped.
	Action	None
ODU046-W	Message	ODU046-W: Exclusion of a file, file = [file name].
	Cause	The file has excluded from the upload screen.
	Action	None
ODU047-W	Message	ODU047-W: The cancel button was pressed.
	Cause	The process has canceled because the cancel button has pressed.
	Action	None
ODU048-W	Message	ODU048-W: A folder can't be sent. Is it continued?
	Cause	A folder can't be sent.
	Action	Select [OK] to continue the process, and [Cancel] to cancel it.

2.30 Change CM Module group size

Perform the operation in the order from cluster 1 to cluster 2.

(1)

Close the all SVP menu.

(2) <Enter the password>

CAUTION

This is a special (exceptional) operation that requires an input of a password. Ask the technical support division and input the password.

Press [Shift] + [Ctrl] + [C] in the 'SVP' window.
Enter the password, and select (CL) [OK].
(Please call Technical Support Division for asking it.)

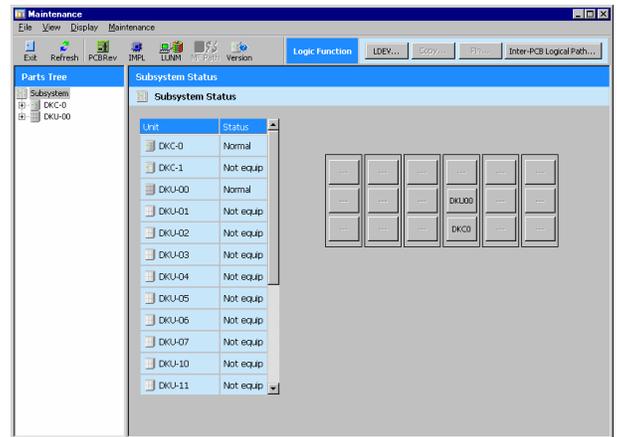


(3) <CM Replace Mode>

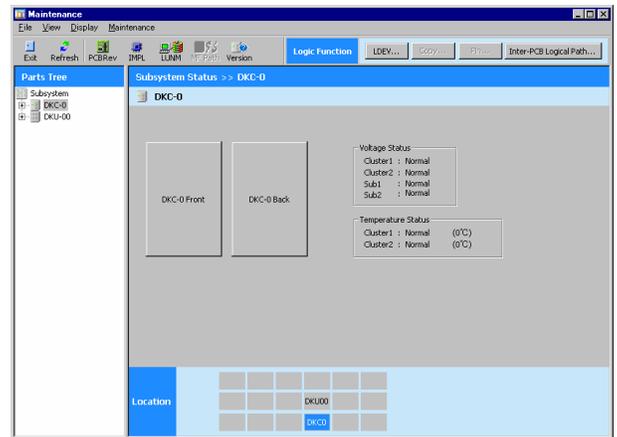
'CM Replace' is displayed.
Select (CL) [Maintenance].



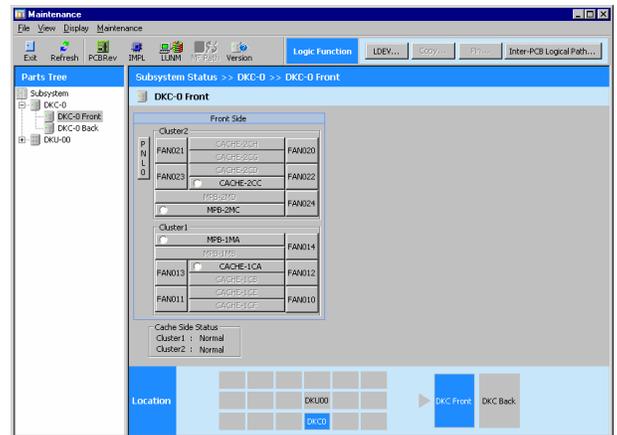
- (4) <Maintenance window>
Select (CL) [DKC-n] in the 'Maintenance' window.



- (5) <DKC window>
Select (CL) [DKC-n Front] in the 'DKC' window.



- (6) <Select Cache>
Select (CL) part.

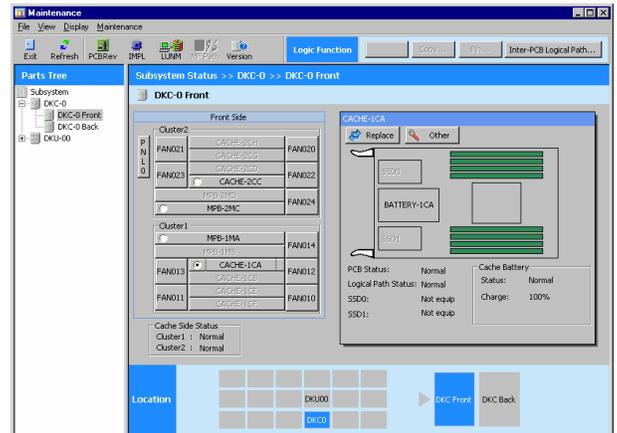


(7) <Replace>

CAUTION

When the screen appears prompting the operator to input a password to prevent multiple maintenance or for executing a pin check, contact the technical support division to ask for instructions.

Check status display.
Select (CL) [Replace].

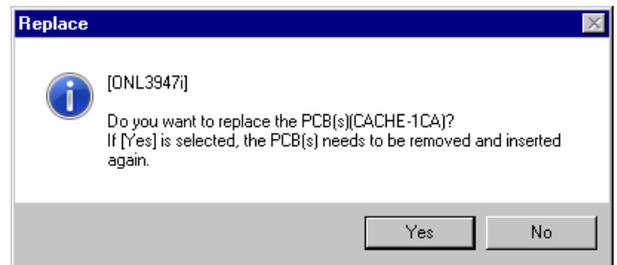


If any other message than the list is displayed, see the SVP Message Section (SVPMSG00-00).

(8) <Check beginning of cache replacement>

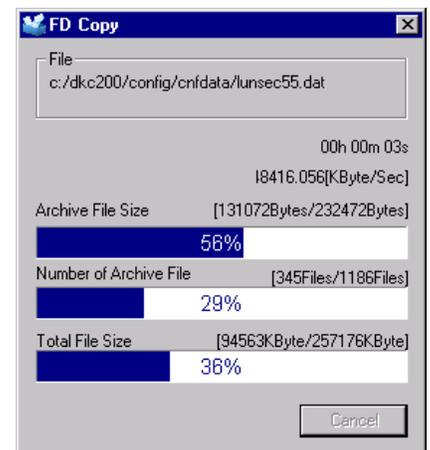
Select (CL) [Yes] after making sure that the package to be replaced is correct in response to:

“Do you want to replace the PCB(s)(CACHE-nnn)? If [Yes] is selected, the PCB(s) needs to be removed and inserted again.”



(9) <Compression of the error information>

The error information is compressed.
The dialog of FD Copy is displayed.



(10) <Get the error information>

Input the Field Failure Information, and select (CL) [OK].

If the model is “DKC710I”, enter the value of Site ID & Case ID in the CSO# field.

“Insert a removable media for gathering error information and select [OK]. The information will be essential to investigate the problem of the hardware. You can select [Cancel] only when removable media is not available.” is displayed.

A Primary copy is always placed on the SVP HD in the “c:\dkc200\others\pcbinfo\” directory with the following file name format “YYMMDDhhmmss.tzg”.

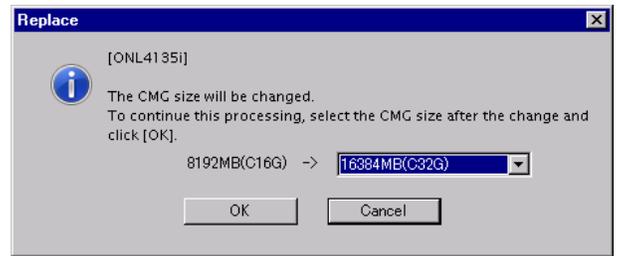
(YY denotes Year, MM denotes Month, DD denotes Day, hh denotes Hour, mm denotes Minute, and ss denotes Second).

If Client PC is selected, a second copy is placed into the root directory of the drive selected on the Client PC. Please burn this to CDROM from the Client PC and return it with the defective part.

It is suggested to move it from the root directory to another directory of the CE’s choosing if desired. Unfortunately it is not possible to select this directory initially. Therefore it must be a manual process.

(11) <Change the Cache Memory Module Size>

Select (CL) [OK] in response to:
“The CMG size will be changed. To continue this processing, select the CMG size after the change and click [OK].”

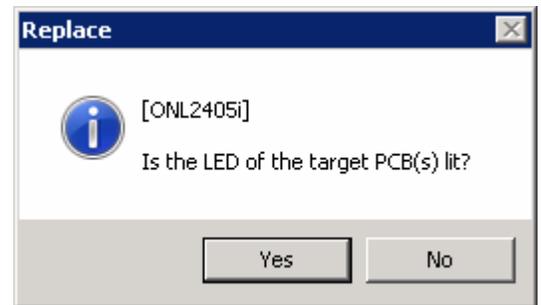


(12) <Cache blocking>

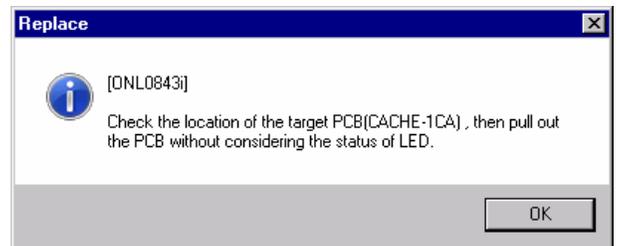
“The Cache Memory PCB(CACHE-*nnn*) is being blocked.” is displayed.

(13) <Check shut down LED>

Select (CL)
* [Yes] if LED is on
* [No] if LED is off
in response to “Is the LED of the target PCB(s) lit?”.



If [No] is selected:
Select (CL) [OK] in response to “Check the location of the target PCB(CACHE-*nnn*), then pull out the PCB without considering the status of the LED.”. (Refer to [REP03-10-10](#))
Go to step (14).

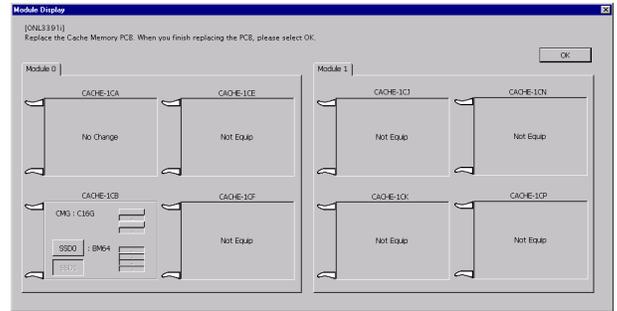


(14) <Cache Replacement>

At this point refrain from pressing the [OK] button.

“Replace the Cache Memory PCB. When you finish replacing the PCB, please select OK.” is displayed.

Make sure of the installation location and size of the module to be added and insert the correct module in the correct location.



(Uninstalled module is displayed as looks depressed.)

(15) <Replace cache PCB>

Replace cache.

And select (CL) [OK].

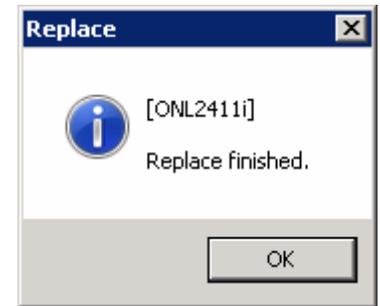
See HARDWARE RCA1 ([REP03-10-10](#))

(16) <Restoring the Cache Memory>

“Restoring the Cache Memory PCB(CACHE-nnn)...” is displayed.

(17) <Check the end of Cache recovery>

Select (CL) [OK] in response to “Replace finished.”.



(18)

Close 'CACHE-*nnn*' window.

Close 'Cluster-*n*' window.

If finishing in the Cluster-2 side, go to (20).

(19) <Change the Cache Memory module size in Cluster-2 side>

Perform steps (6) to (18).

Select [CACHE-2CC], [CACHE-2CD], [CACHE-2CG] or [CACHE-2CH].

Notice: There is no problem though SIM of reference code is 4821E5 (Refer to [TRBL14-20](#)) might be generated while changing the size of Cluster-2. Because it is SIM generated by this operation.

(20)

Close 'DKC' window.

Close 'Maintenance' window.

Change the mode to [View Mode].

2.31 Setting System Option Mode

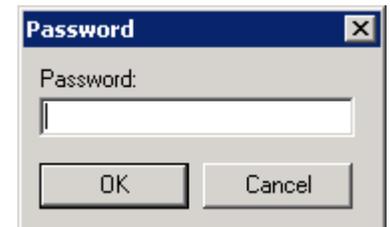
- (1) Close the all SVP menu.

- (2) <Enter the password>

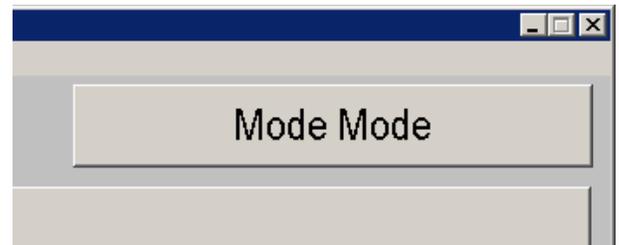
CAUTION

This is a special (exceptional) operation that requires an input of a password. Ask the technical support division and input the password..

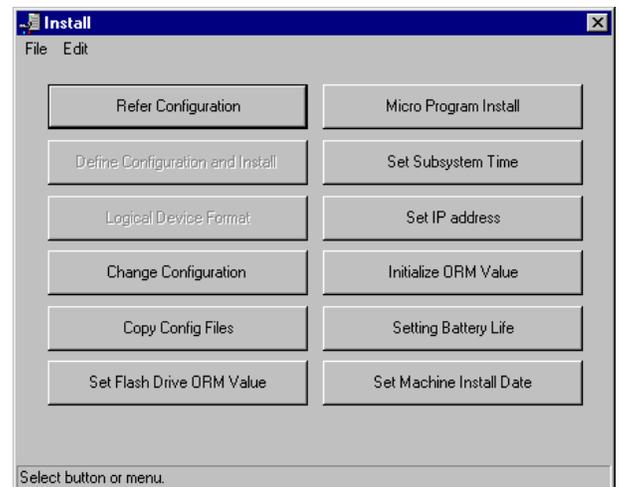
Press [Shift] + [Ctrl] + [m] in the 'SVP' window.
Enter the password, and select (CL) [OK].
(Please call Technical Support Division for asking it.)



- (3) <Mode Mode>
'Mode Mode' is displayed.
Select (CL) [Install].

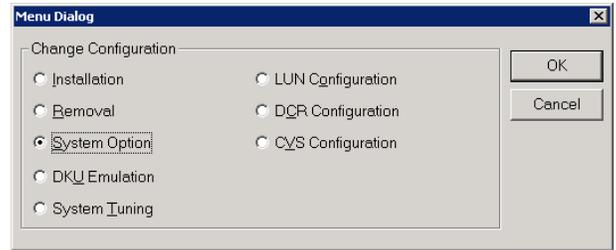


- (4) <Install Window>
Select (CL) the [Change Configuration] menu
in the 'Install' window.



(5) <Menu Dialog Window>

Select (CL) the [System Option] menu in the 'Menu Dialog' window and select (CL) [OK].

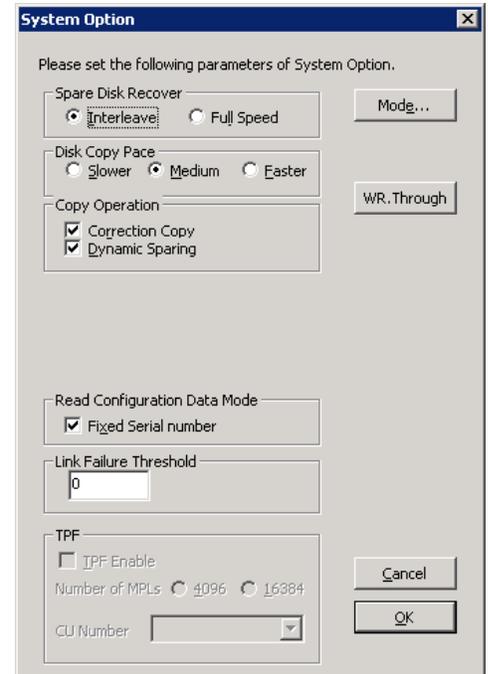


(6) <System Option Dialog>

Select (CL) [Mode...] in the 'System Option'. Go to Step (7).

When the setting of all the entry items is completed, select (CL) the [OK] button. Go to Step (8).

A selection (CL) of the [Cancel] button completes this operation procedure.



(7) <Mode Window >

Select (CL) [LPR] and [Mode Configuration] in the 'Mode' window and select (CL) [OK]. Return to Step (6).

[LPR] : Select the following item.

System : Apply to the whole system.

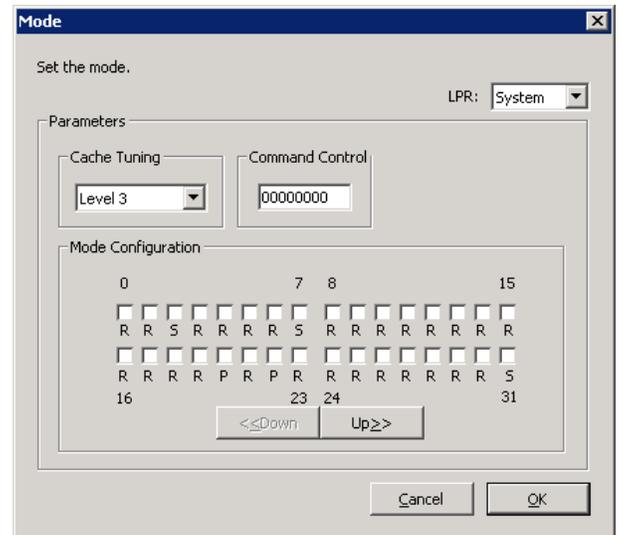
LPR0 - LPR31 : Apply to the CLPR0 - CLPR31.

The following is definition of each Mode Class.

P (Public) : Any permission is unnecessary.

S (TS) : The permission of the Technical Support Division is necessary. When you select (CL) the check box for "S", go to the Step (7-1).

R (Hitachi, Ltd.) : The permission of Hitachi, Ltd. is necessary. When you select (CL) the check box for "R", go to the Step (7-2).

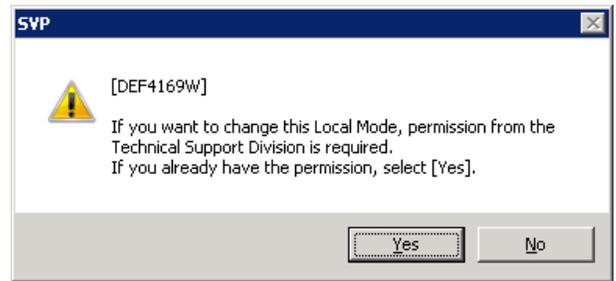


(7-1)

“If you want to change this Local Mode, permission from the Technical Support Division is required. If you already have the permission, select [Yes].” is displayed.

When you select (CL) [Yes], the settings are included. Go back to the Step (7).

When you select (CL) [No], the settings are not included. Go back to the Step (7).

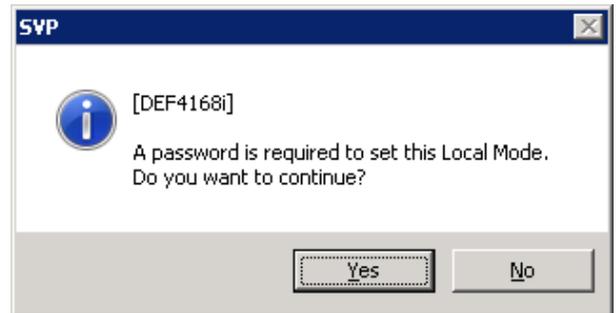


(7-2)

“A password is required to set this Local Mode. Do you want to continue?” is displayed.

When you select (CL) [Yes], go to the Step (7-2-1).

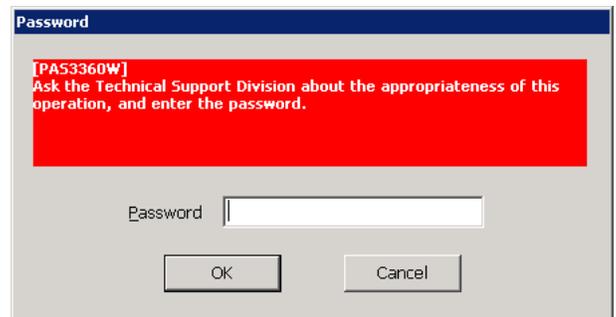
When you select (CL) [No], go back to the Step (7).



(7-2-1)

Enter the password and select (CL) [OK].
Go back to the Step (7).

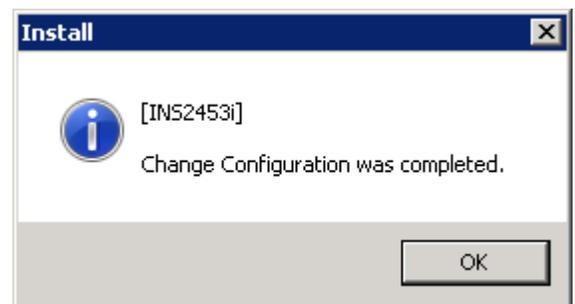
Entering the password is required in this operation. Please call Technical Support Division for asking it.



(8)

“Change Configuration was completed.” is displayed.

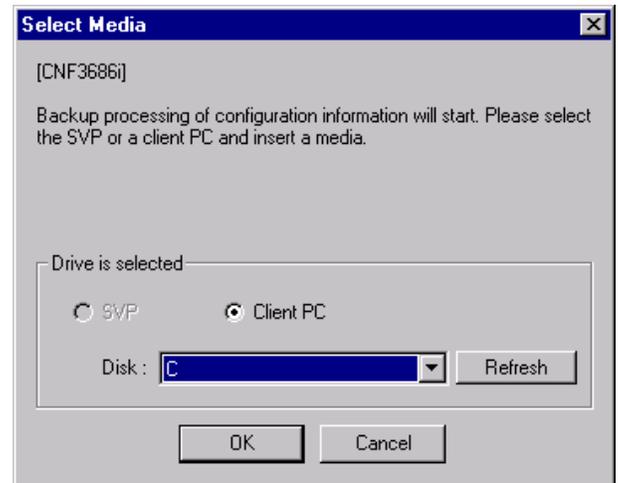
Select (CL) [OK].



(9)

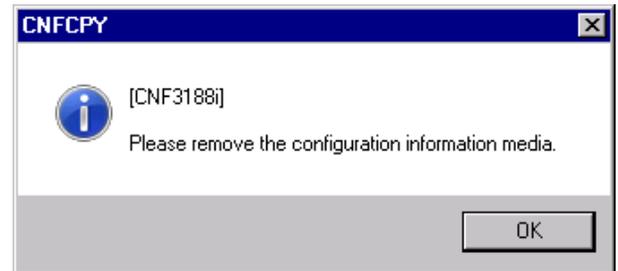
Execute an operation for backing up the configuration information.
 Prepare the removable media for backup and insert the media.
 Please select (CL) the [Refresh] button, and update drive information.
 Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page [MICRO07-140](#).



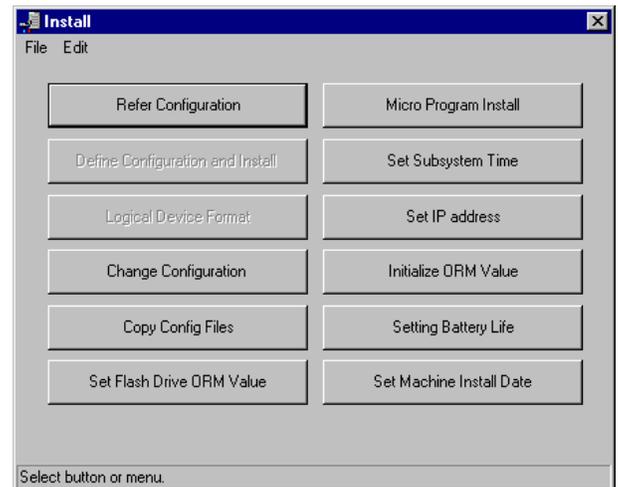
(10)

When this procedure is completed, the message “Please remove the configuration information media.” is displayed. Remove the configuration information media, select (CL) [OK].



(11)

Close the 'Install' window.
 Select (CL) [File]-[Exit].



(12)

Change the Mode from [Mode Mode] to [View Mode].

3. Activating and Terminating STATUS

3.1 Activating STATUS

(1) <Start>

Select (CL) the [Maintenance] in the 'SVP' window.



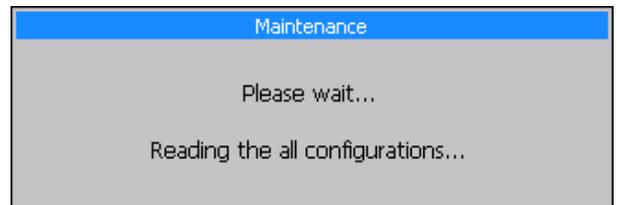
(2) <Start Condition Check>

Notice:

Do not change the application window until completing the communication of SVP-DKC and SVP-SSVP.

The following message is displayed.

"Please Wait..."



(3) <Start Error>

When an error occurred while starting the status, the message to indicate the error factor is output.

- Cluster failure

“Cluster-n is failed!”

n: 1 or 2

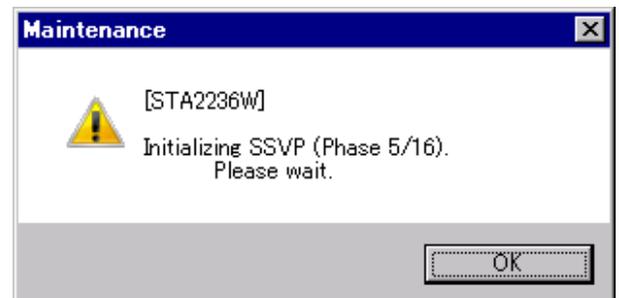


Restore the power supply (Refer to TROUBLE SHOOTING SECTION “3.2.7 A failure has occurred when turning the power on” (TRBL03-250)) if the power supply are fault (Refer to the status of the power supply parts). (Refer to “3.4.2 DKC information view” (SVP03-110)).

- SSVP is operating

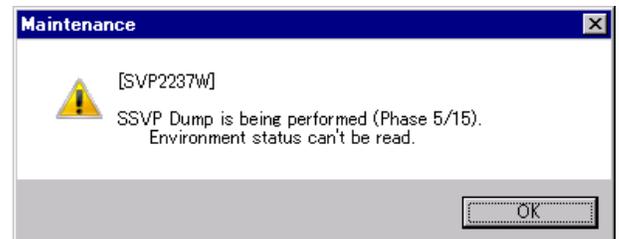
“Initializing SSVP (Phase n/16). Please wait.”

n: 1 to 16



“SSVP Dump is being performed (Phase n/15). Environment status can't be read”

n: 1 to 16

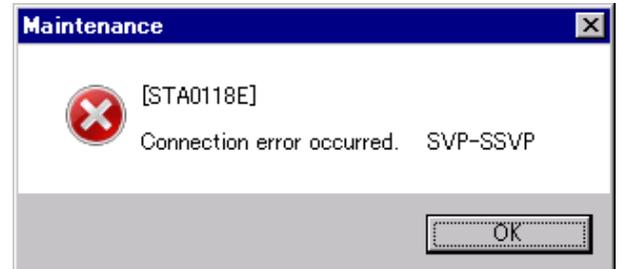
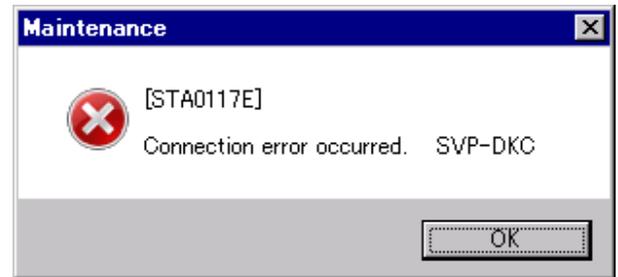


Execute the procedure from Step (1) again after checking that the target processing is completed.

- Communication failure

“Connection error occurred. SVP-XXX”

XXX: DKC or SSV



Refer to “5.2 Recovery Procedure for LAN Error (TRBL05-40)”.

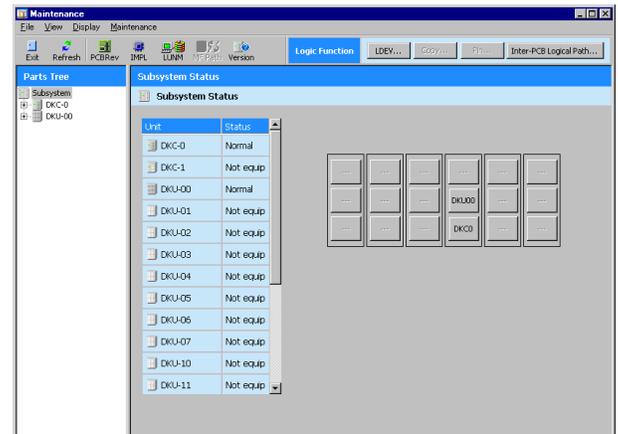
(4) <Status Display>

The subsystem information is displayed in the ‘Maintenance’ window, and the status starts. (“-----”, or “Unknown” is displayed in the point where the information acquisition is impossible due to a communication failure.)

Note: Displayed information is the subsystem information on point that starts the screen.

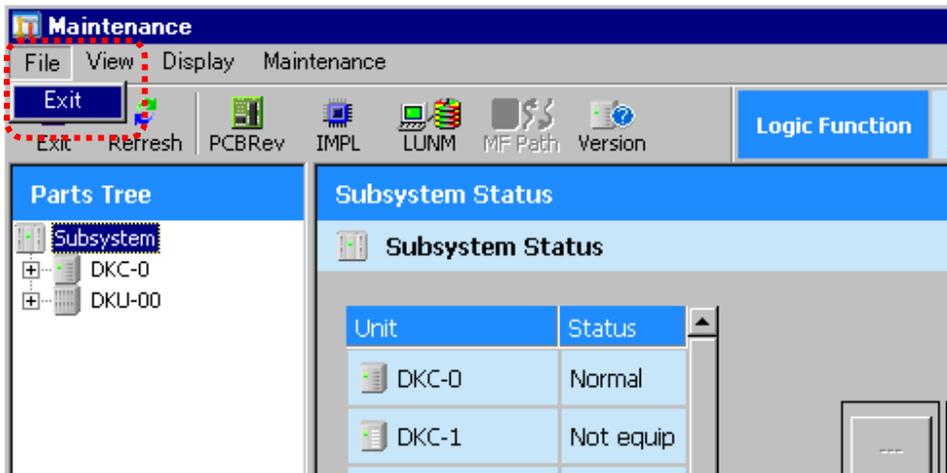
To refer to latest information, select [Refresh].

(Refer to “3.3 Updating the STATUS display (SVP03-50)”)



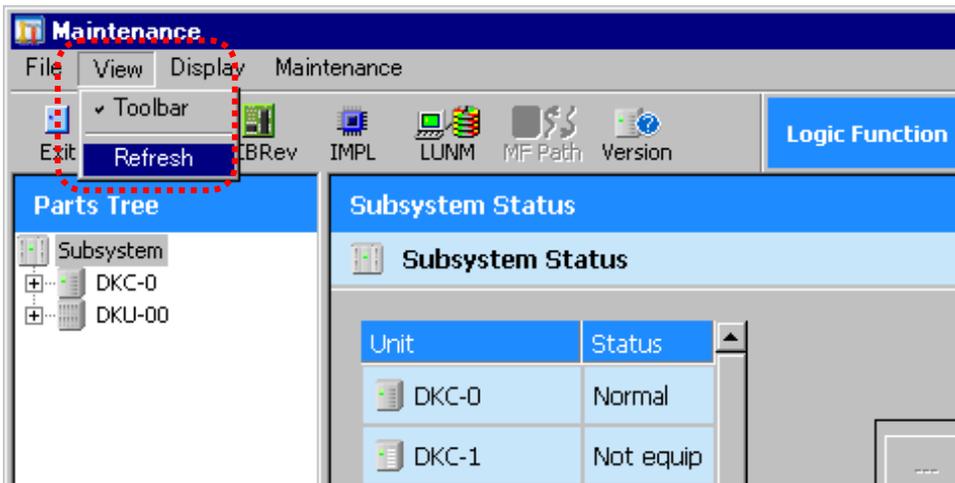
3.2 Terminating STATUS

Select (CL) [File] – [Exit] on the menu bar in the 'Maintenance' window.



3.3 Updating the STATUS display

Select (CL) [View]-[Refresh] on the menu bar in the 'Maintenance' window.



3.4 Main screen

The main window of the 'Maintenance' window is configured as shown below.

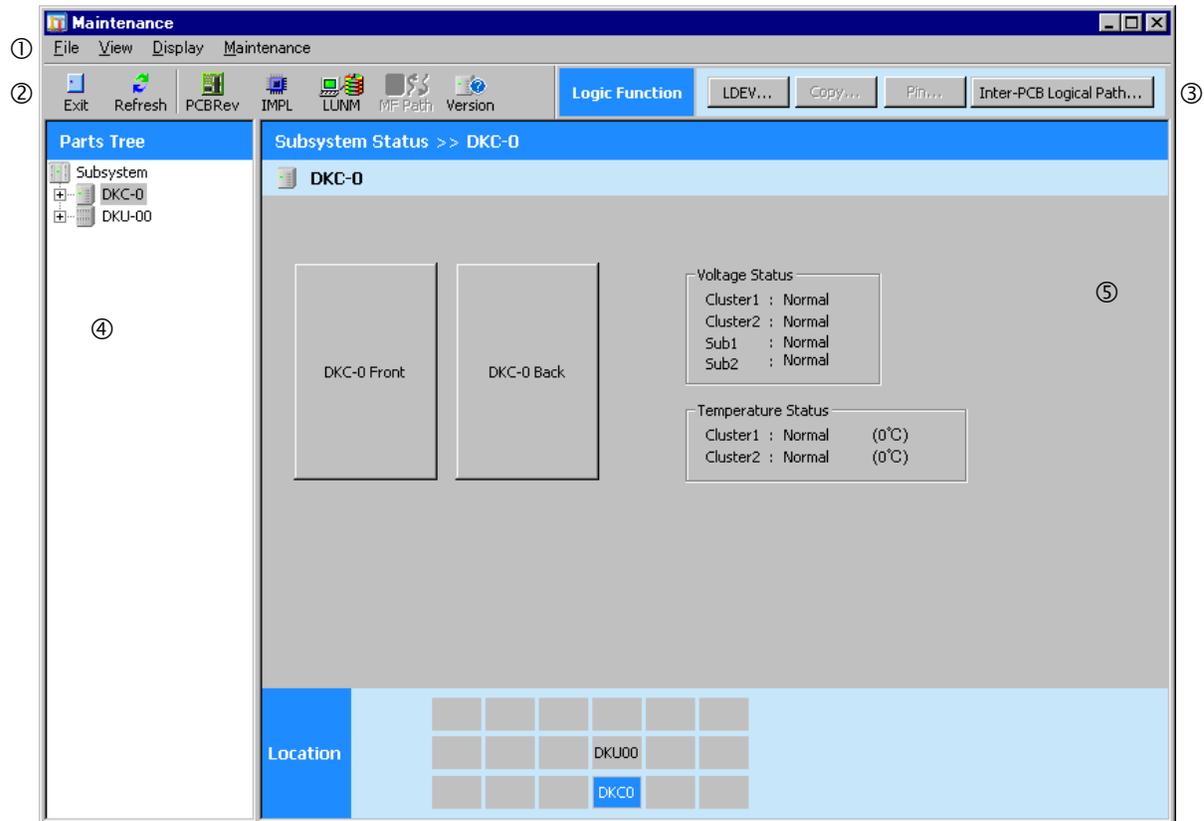


Table 3.4-1 Overview of Each Part in the Main Window

#	Item	Description
①	Menu	Menu items that can be operated using this function
②	Tool bar	Consists of buttons for operating some of the functions in the menu.
③	Dialog bar	Displays logical statuses. You can check the detailed information by pressing a button.
④	Tree	Displays statuses of parts in hierarchical order conscious of hardware configuration.
⑤	Information view	Displays a status of each part.

① Menu

② Tool bar

Table 3.4-2 Menu / Tool bar

Menu	Sub menu		Description	Toolbar	
File	Exit		Terminates the application.	 Exit	
View	Toolbar		Displays/does not display the tool bar.	None	
	Refresh		Updates information being displayed.	 Refresh	
Display	PCB Revision...		Displays the 'PCB Revision Display'.	 PCBRev	
	IMPL Status...		Displays the 'IMPL Status'.	 IMPL	
	LUN Management...		Displays the 'LUN Management'.	 LUNM	
	Main Frame Path...		Displays the 'Main Frame Path'.	 MF Path	
	Version...		Displays the 'Version'.	 Version	
Maintenance	Multi PCB Replace	DKC-0	Cluster1	Replaces all PCBs of the DKC-0 Cluster 1 together.	None
			Cluster2	Replaces all PCBs of the DKC-0 Cluster 2 together.	None
		DKC-1	Cluster1	Replaces all PCBs of the DKC-1 Cluster 1 together.	None
			Cluster2	Replaces all PCBs of the DKC-1 Cluster 2 together.	None
	SVP	Switch SVP		Switches the SVP.	None
		Transfer Config		Transfers the configuration information to the Standby SVP.	None

③ Dialog bar



Table 3.4-3 List of Dialog Bars

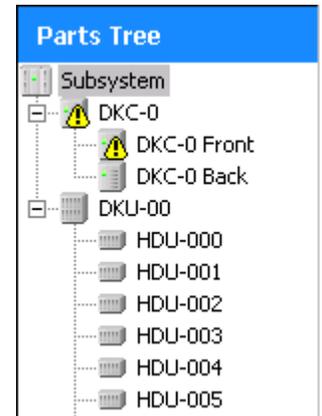
Button	Detailed information displayed	Processing when pressed
LDEV...	Status of the logical device Steady lighting of the button : Normal Blinking of the button : Failed or under maintenance	Displays 'Logical Device'.
Copy...	Status of copying Blinking of the button : Copying is in progress. Extinction of the button : No copying is done.	Displays 'Copy Status'.
Pin...	Pin information Blinking of the button : Pin information is present. Extinction of the button : No Pin information is present.	Displays 'Pinned Track'.
Inter-PCB Logical Path...	Status of Inter-PCB Logical Path Steady lighting of the button : Normal Blinking of the button : Failed	Displays 'Inter-PCB Logical Path Status'.

④ Tree

The maintenance target parts on the subsystem are displayed in the hierarchical order based on the hardware configuration.

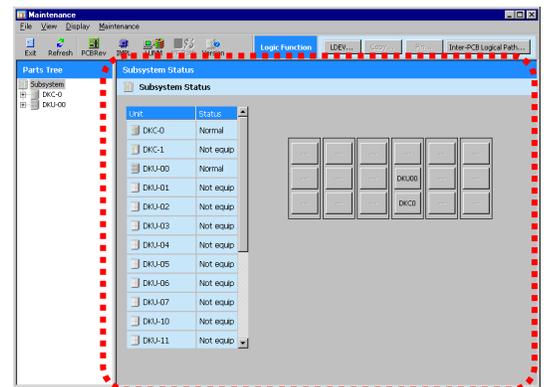
Table 3.4-4 Contents of Tree

Display of the status	Displays the warning icon  when the status of the parts is not normal.
Item selection	Displays the target information on the information view.



⑤ Information view

Displays the location of the part and its status. Also executes the maintenance function of the target part. Refer to 3.4.1 to 3.4.6 for the details.



3.4.1 Subsystem information view

This view is displayed at the time of the initial start of the 'Maintenance' window.

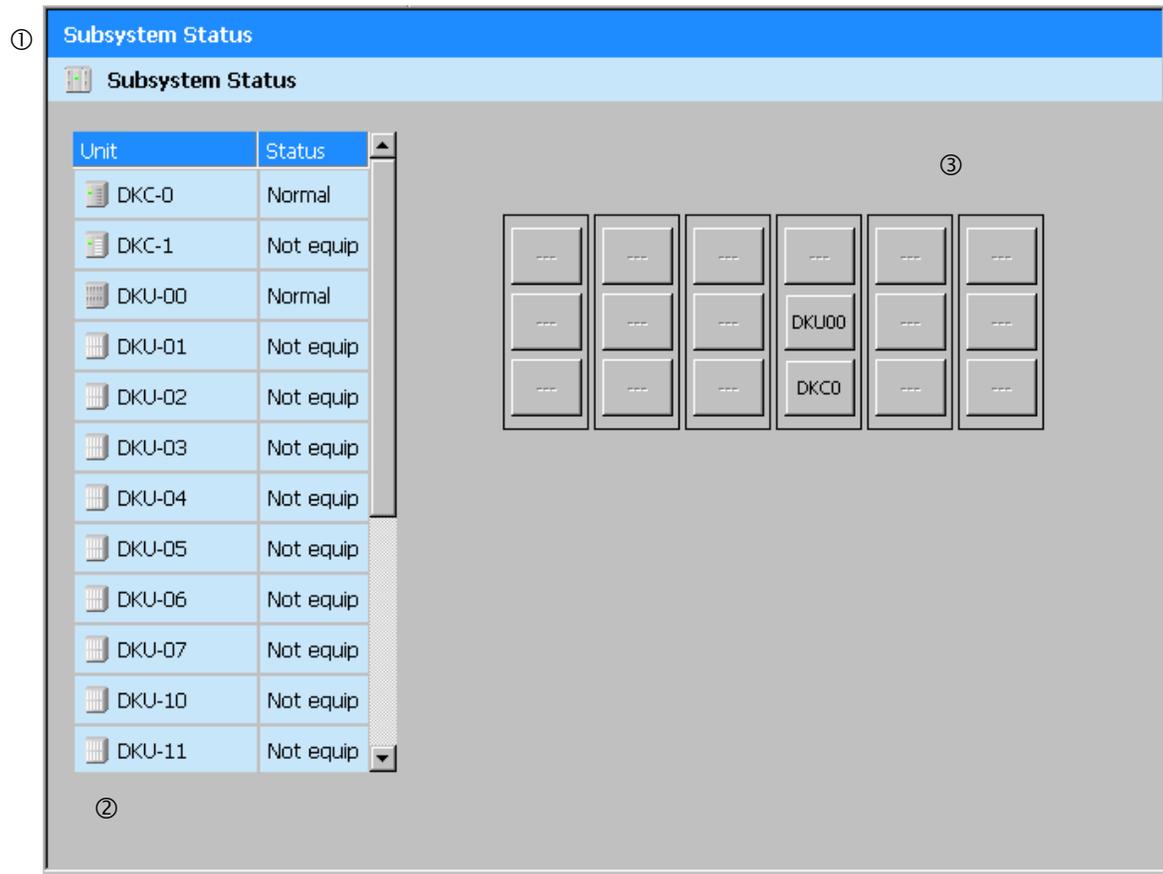


Table 3.4.1-1 Subsystem information view

#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
②	List	Information displayed	Displays the status of each unit in the list form. "Normal" : Normal "Warning" : Abnormal "Not equip" : Uninstalled
		Item selection	Displays the detailed information of the target unit.
③	Image	Information displayed	Displays the status of each unit in the installation image. Lighting : Normal Blinking : Abnormal Extinction(---) : Uninstalled
		Item selection	Displays the detailed information of the target unit.

3.4.2 DKC information view

This view is displayed by selecting (CL) [DKC-n] on the subsystem information view.

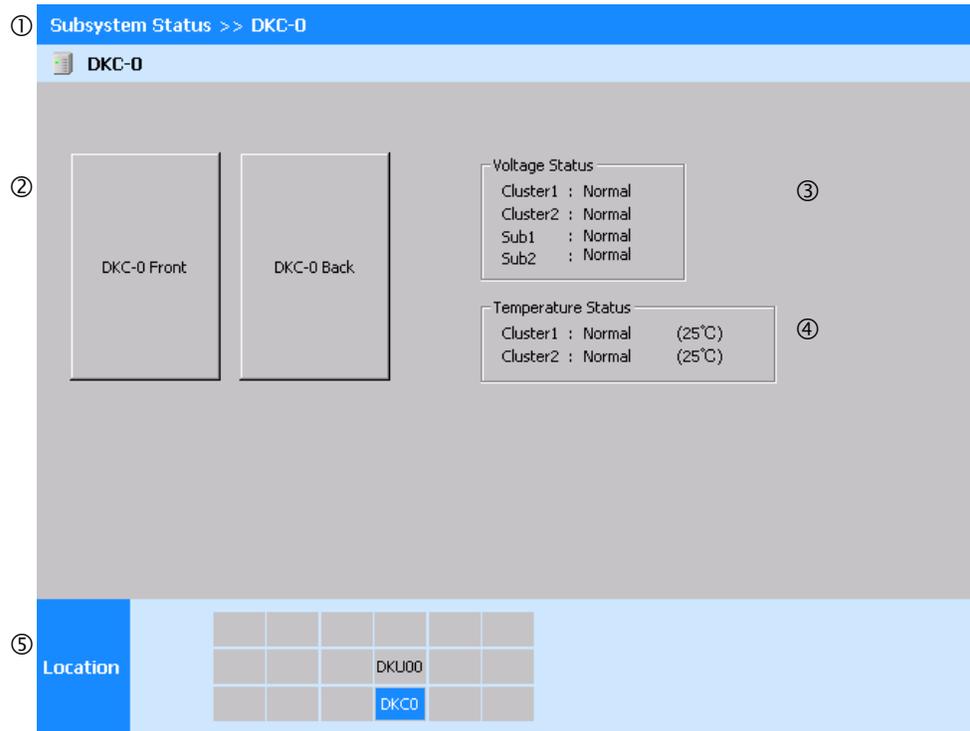


Table 3.4.2-1 DKC information view

#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
		Title selection	“Subsystem Status” Displays the subsystem information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal
		Button selection	Displays the detailed information of each part.
③	Information of voltage status	Information displayed	Displays the voltage status of each cluster and each sub. “Normal” : Normal “Warning” : Abnormal “Unknown” : Status is unknown
④	Information of temperature status	Information displayed	Displays the temperature status and temperature of each cluster. “Normal” : Normal “Warning” : Abnormal “Unknown” : Status is unknown
⑤	Location information	Information displayed	Highlights (in blue) the installation position of the information displayed in this view on the subsystem.

3.4.3 DKC Front information view

This view is displayed by selecting (CL) [DKC-n Front] on the DKC information view.

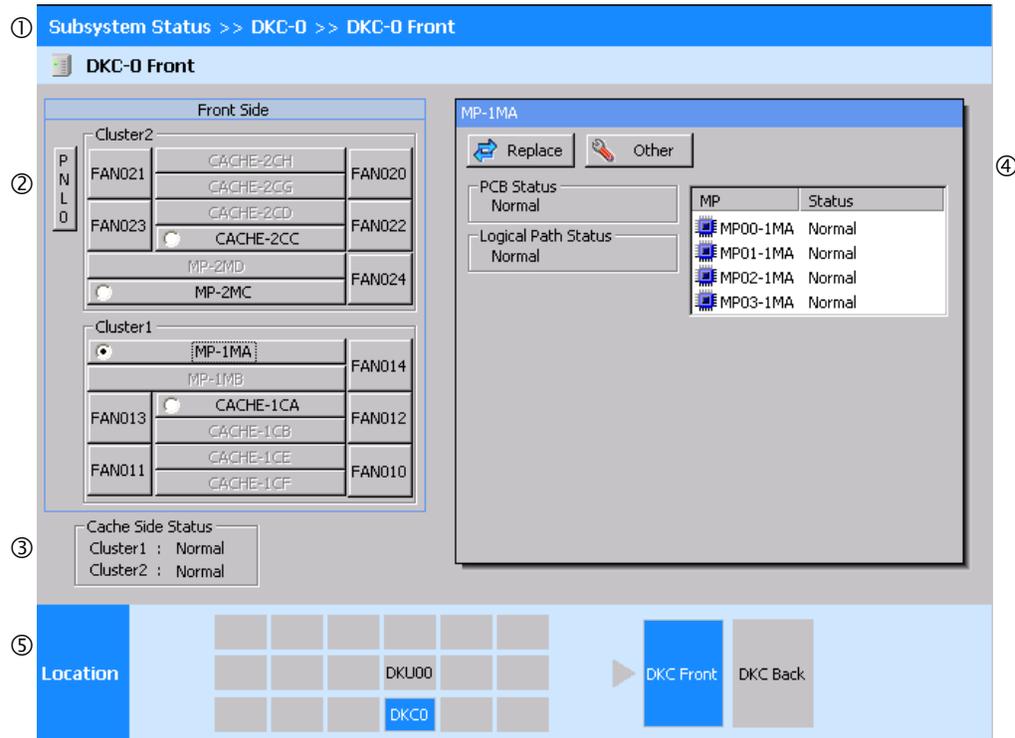


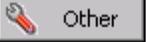
Table 3.4.3-1 DKC Front information view

#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
		Title selection	“Subsystem Status” Displays the subsystem information view.
			“DKC-n” Displays the DKC information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.
③	Information on the Cache Memory side status	Information displayed	Displays the Cache Memory side status of each cluster. “Normal” : Normal “Warning” : Abnormal
④	PCB Detailed Information	Displays the detailed information of each PCB or executes the maintenance processing of each PCB. (Refer to SVP03-130 ~ 160.)	
⑤	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.

<PCB Detailed Information>

(1) MP PCB detailed information

① MP-1MA

②  Replace  Other

③ PCB Status
Normal

④ Logical Path Status
Normal

⑤

MP	Status
 MP00-1MA	Normal
 MP01-1MA	Normal
 MP02-1MA	Normal
 MP03-1MA	Normal

Table 3.4.3-2 MP PCB detailed information

#	Item	Description
①	Title	Displays the location of MP PCB.
②	Maintenance button	Executes the maintenance processing. [Replace] Executes the replacement processing. [Other] – [Restore] Executes the forcible recovery processing. [Other] – [Blockade] Executes the forcible blockade processing.
③	PCB status information	Displays the status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
④	Logical path information	Displays the logical path status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑤	MP list	[MP] Displays the location of MP.
		[Status] Displays the status of MP. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure

(2) Cache detailed information

The screenshot displays the 'CACHE-2CC' diagnostic window. At the top, there are 'Replace' and 'Other' buttons. The main area shows a schematic of the cache hardware, including SSD0, BATTERY-2CC, and SSD1. Below the schematic, a status table provides details for each component. A 'Cache Battery' pop-up window is also visible, showing its status and charge level.

Component	Status
PCB Status	Normal
Logical Path Status	Normal
SSD0	Normal
SSD1	Not equip

Cache Battery	
Status	Normal ⑦
Charge	0% ⑧

Table 3.4.3-4 Cache detailed information

#	Item	Description
①	Title	Displays the location of Cache
②	Maintenance button	Executes the maintenance processing. [Replace] Executes the replacement processing. [Other] – [Restore] Executes the forcible recovery processing. [Other] – [Blockade] Executes the forcible blockade processing.
③	Button	Cache memory module Displays the status of the Cache memory module in the installation image. Lighting : Normal Blinking('*') : Abnormal Extinction('-') : Uninstalled
		SSDn Displays the status of the SSD in the installation image. Lighting : Normal Extinction : Uninstalled
		BATTERY-XXX Displays the status of the BATTERY in the installation image. Lighting : Normal Extinction : Uninstalled
④	PCB status information	Displays the status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point “Access Error” : Access error (PCB is blocked by the failure, All CMGs are abnormal)
⑤	Logical path information	Displays the logical path status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑥	SSD status information	Displays the status of each SSD. “Normal” : Normal “Failed” : Abnormal “Not Equip” : Uninstalled “Error” : Status acquisition failure
⑦	Cache battery status information	Displays the status of Cache battery. “Normal” : Normal “Warning” : Abnormal “Not Equip” : Uninstalled
⑧	Cache battery Charge information	Displays the Charge of Cache battery. “Display the 0 ~ 100%” : Normal “Checking” : Checking “Unknown” : There is an abnormal point

3.4.4 DKC Back information view

This view is displayed by selecting (CL) [DKC-n Back] on the DKC information view.

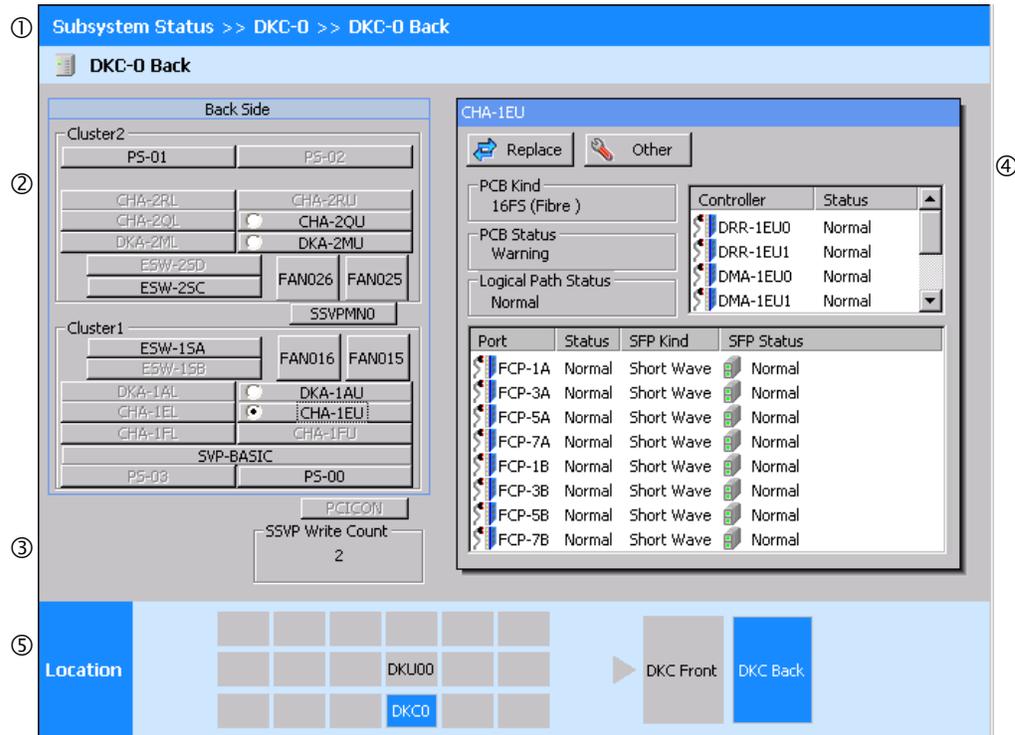


Table 3.4.4-1 DKC Back information view

#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
		Title selection	“Subsystem Status” Displays the subsystem information view. “DKC-n” Displays the DKC information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction/No display : Uninstalled
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.
③	SSVP memory write information	Information displayed	Displays the SSVP memory write numbers in integer value.
④	PCB Detailed Information	Displays the detailed information of each PCB or executes the maintenance processing of each PCB. (Refer to SVP03-180 ~ 210.)	
⑤	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.

<PCB Detailed Information>

(1) CHA detailed information

①

②

③

④

⑤

⑥

⑦

Controller	Status
DRR-1EU0	Normal
DRR-1EU1	Normal
DMA-1EU0	Normal
DMA-1EU1	Normal

Port	Status	SFP Kind	SFP Status
FCP-1A	Normal	Short Wave	Normal
FCP-3A	Normal	Short Wave	Normal
FCP-5A	Normal	Short Wave	Normal
FCP-7A	Normal	Short Wave	Normal
FCP-1B	Normal	Short Wave	Normal
FCP-3B	Normal	Short Wave	Normal
FCP-5B	Normal	Short Wave	Normal
FCP-7B	Normal	Short Wave	Normal

Table 3.4.4-2 CHA detailed information

#	Item	Description
①	Title	Displays the location of CHA.
②	Maintenance button	Executes the maintenance processing. [Replace] Executes the replacement processing. [Other] – [Restore] Executes the forcible recovery processing. [Other] – [Blockade] Executes the forcible blockade processing. [Other] – [SFP Maintenance] Starts the SFP maintenance window.
③	PCB type information	Displays the type of PCB.
④	PCB status information	Displays the status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑤	Logical path information	Displays the logical path status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑥	Port list	[Port] Displays the location of the port. “FCP-xx” : Port location of Fibre PCB “HTP-xx” : Port location of Mfibre PCB “GEP-xx” : Port location of FCoE PCB
		[Status] Displays the status of the port. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
		[SFP Kind] Displays the type of SFP. “Short Wave” : Short Wave “Long Wave” : Long Wave “----” : Type is unknown.
		[SFP Status] Displays the status of SFP. “Normal” : Normal “Failed” : Blocked “Not fix” : Status is uncertain.
⑦	Controller list	[Controller] Displays the location of Controller.
		[Status] Displays the status of Controller. “Normal” : Normal “Failed” : Blocked by the failure

(2) DKA detailed information

① DKA-1AU

② Replace Other

③ PCB Kind
DKA (4Port)

④ PCB Status
Normal

⑤ Logical Path Status
Normal

Controller	Status
⑦ DRR-1AU0	Normal
DRR-1AU1	Normal
DRR-1AU2	Normal
DRR-1AU3	Normal

Port	Status
⑥ SAS-1AU00	Normal
SAS-1AU01	Normal
SAS-1AU10	Normal
SAS-1AU11	Normal

Table 3.4.4-3 DKA detailed information

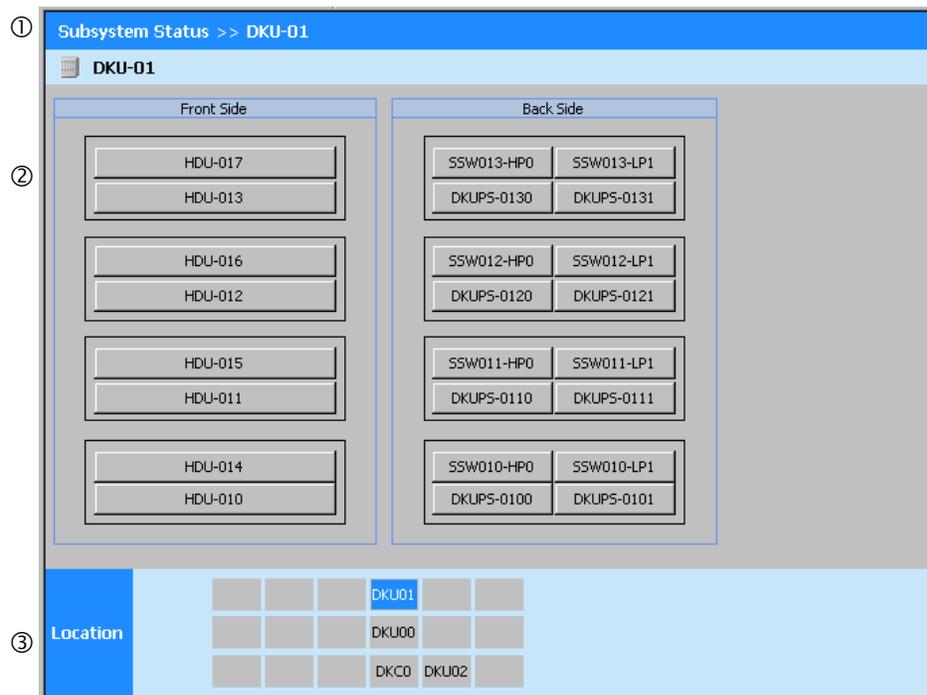
#	Item	Description
①	Title	Displays the location of DKA.
②	Maintenance button	Executes the maintenance processing. [Replace] Executes the replacement processing. [Other] – [Restore] Executes the forcible recovery processing. [Other] – [Blockade] Executes the forcible blockade processing.
③	PCB type information	Displays the type of PCB.
④	PCB status information	Displays the status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑤	Logical path information	Displays the logical path status of PCB. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑥	Port list	[Port] Displays the location of the port.
		[Status] Displays the status of the port. “Normal” : Normal “Blocked” : Blocked by the maintenance “Failed” : Blocked by the failure “Warning” : There is an abnormal point
⑦	Controller list	[Controller] Displays the location of Controller.
		[Status] Displays the status of Controller. “Normal” : Normal “Failed” : Blocked by the failure

3.4.5 Disk Unit information view

This view is displayed by selecting (CL) [DKU-nn] on the subsystem information view.



View of 2.5 inch DKU



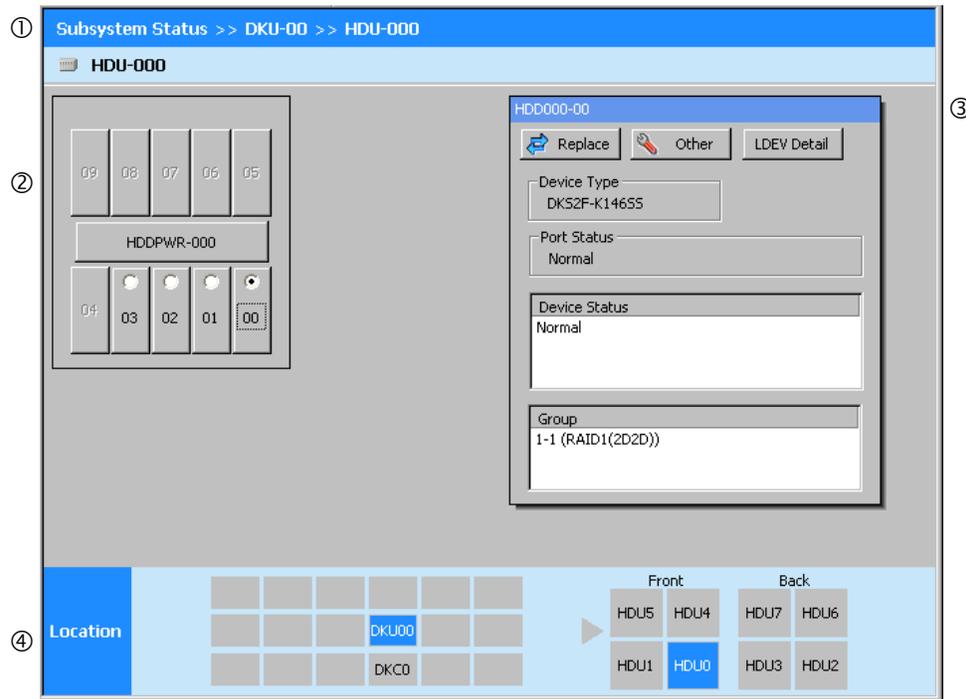
View of FMU (Flash Module Unit) DKU

Table 3.4.5-1 Disk Unit information view

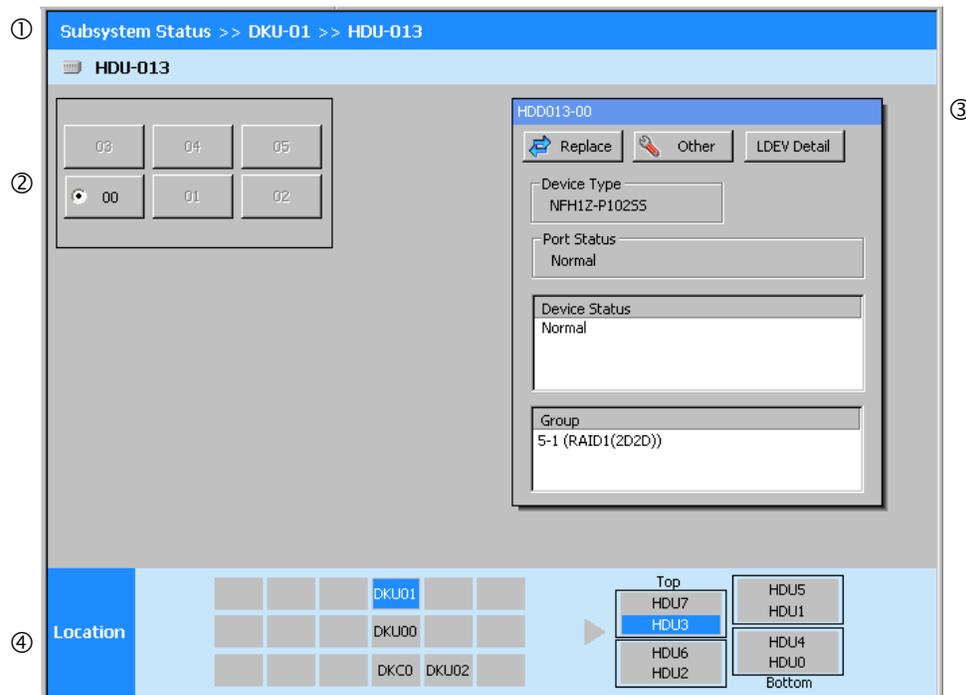
#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
		Title selection	“Subsystem Status” Displays the subsystem information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.
③	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.

3.4.6 HDU information view

This view is displayed by selecting (CL) [HDU-XXX] on the Disk Unit information view.



View of 2.5 inch HDU



View of FMU HDU

Table 3.4.6-1 HDU information view

#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
		Title selection	<p>“Subsystem Status” Displays the subsystem information view.</p> <p>“DKU-<i>nn</i>” Displays the DKU unit information view.</p>
②	Button	Information displayed	<p>Displays the status of each part in the installation image.</p> <p>Lighting : Normal</p> <p>Blinking : Abnormal</p> <p>Extinction : Uninstalled</p>
		Button selection	Executes the replacement processing of each part.
③	HDD Detailed Information	Displays the detailed information of each HDD. (Refer to SVP03-250 ~ 260.)	
④	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.

<HDD detailed information>

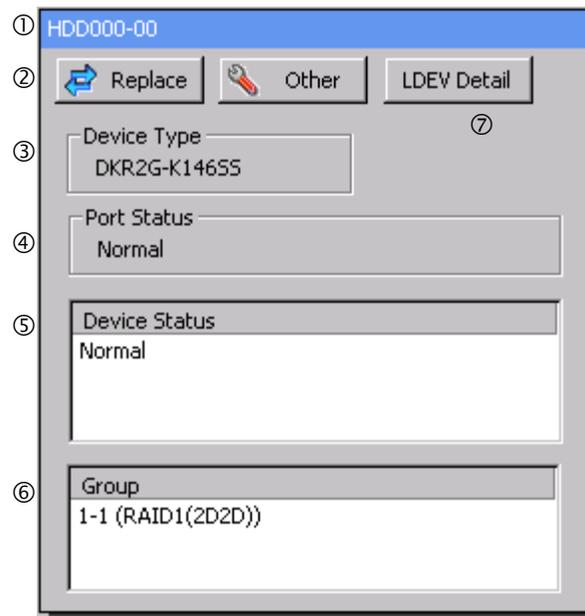


Table 3.4.6-2 HDD detailed information (1/2)

#	Item	Description
①	Title	Displays the location of HDD
②	Maintenance button	Executes the maintenance processing.
		[Replace] – [Replace] Executes the replacement processing.
		[Replace] – [Replace(INLINE)] Executes the replacement processing (INLINE processing skip).
		[Other] – [Restore] Executes the forcible recovery processing.
		[Other] – [Blockade] Executes the forcible blockade processing.
		[Other] – [Restore Data] Executes the data recovery processing.
		[Other] – [Spare Disk] Executes the spare save processing.
		[Other] – [Correction Copy] Executes the correction copy processing.
		[Other] – [Drive Interrupt] Instructs the copy processing stop.
		[Other] – [FMD Dump] Executes gathering FMD Dump. Enable only HDDs mounted in FMUs.
③	Model name information	Displays the model name of HDD.
④	Port status information	“Normal” : Normal
		“Warning(Port 0 failed)” : Port 0 blocked
		“Warning(Port 1 failed)” : Port 1 blocked
		“Failed” : Both port blocked
⑤	HDD status information	Displays the status of HDD
		“Normal” : Normal
		“Correction Copy(x%)” : Executing the correction copy (rate of progress)
		“Copy Back(x%)” : Restoring the data from the spare disk (rate of progress)
		“Drive Copy(x%)” : Copying the data to the spare disk (rate of progress)
		“Dynamic Sparring(x%)” : Executing the Dynamic sparring (rate of progress)
		“Blocked” : Blocked owing to the maintenance.
		“Failed” : Blocked owing to a failure.
		“Warning” : Either of ports is blocked
		“Free” : Spare disk is usable.
		“Reserved” : Spare disk is not usable. It is already reserved.
		“to HDD-XX” : Data is copied to HDD-XX.
		“from HDD-XX” : Data is copied from HDD-XX.
“Copy incomplete” : The copy process was finished in an incomplete state.		

Table 3.4.6-2 HDD detailed information (2/2)

#	Item	Description
⑥	Group information	Displays the group name to which HDD belongs and its RAID level.
⑦	LDEV Detail button	Displays the LDEV information of group.

3.5 Copy Status view

This window is displayed by selecting (CL) [Copy...] on the dialog bar in the main window.

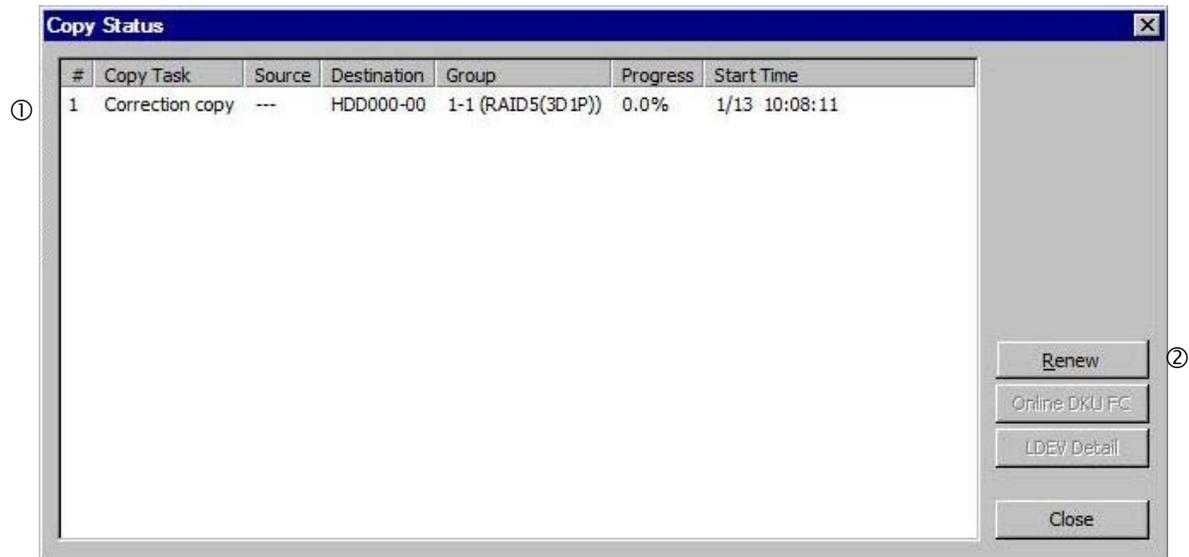


Table 3.5-1 Copy Status view

#	Item	Description
①	List	Displays the information on the copy operation executing right now.
		[Copy Task] Displays the type of the copy operation. “Correction Copy” : Correction copy “*” display: Waiting for the automatic copy back. “Dynamic Sparing” : Dynamic sparing “Copy Back” : Copy back “Drive Copy” : Drive copy
		[Source] Displays the location of the copy source HDD.
		[Destination] Displays the location of the copy destination HDD.
		[Group] Displays the group name to which the copy destination HDD belongs and its RAID level.
		[Progress] Displays the rate of progress of the copy operation.
		[Start Time] Displays the time when the copy operation started.
②	Button	[Renew] Updates the information displayed.
		[Online DKU FC]
		[LDEV Detail] Displays the information of the LDEV belonging to the group in the selected list item.

3.6 Logical device window

This window is displayed by selecting (CL) [LDEV...] on the dialog bar in the main window. The logical device window is configured as shown below.

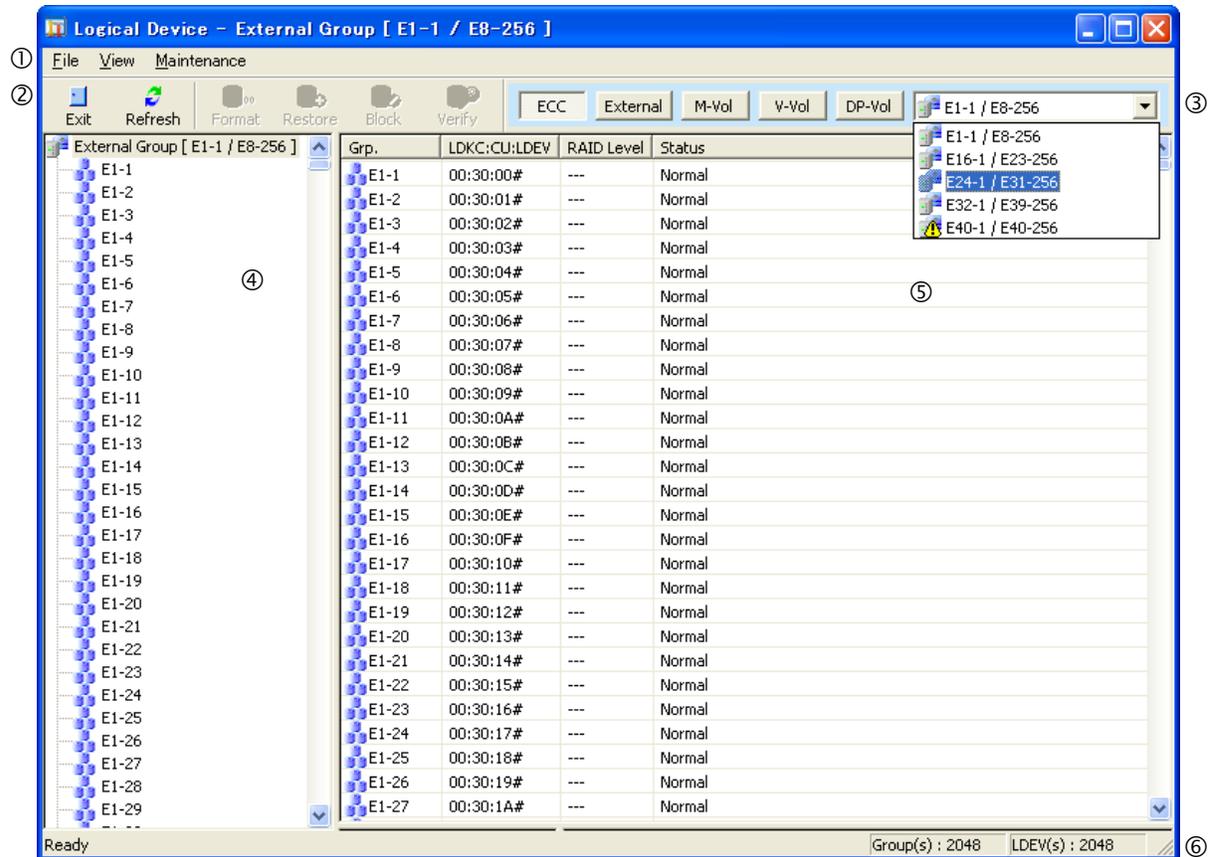


Table 3.6-1 Overview of Each Part in Logical Device Window

#	Item	Description
①	Menu	Menu items that can be operated using this function
②	Tool bar	Consists of buttons for operating some of the functions in the menu.
③	Dialog bar	Selects the device type and the range to display.
④	Tree	Displays the device in hierarchical order.
⑤	List	Displays the information of the logical device.
⑥	Status bar	Displays the information of the device number.

① Menu

② Tool bar

Table 3.6-2 Menu / Tool bar

Menu	Sub menu	Description	Toolbar	
File	Exit	Terminates the application.	 Exit	
View	Status Bar	Displays/does not display the status bar.	None	
	Go To	Up One Level	Moves it to one upper hierarchy.	None
	Refresh	Updates information being displayed.	 Refresh	
Maintenance	Format	Executes the format processing.	 Format	
	Restore	Executes the maintenance recovery processing.	 Restore	
	Block	Executes the maintenance blockade processing.	 Block	
	Verify	Executes the parity synchronization check.	 Verify	

③ Dialog bar

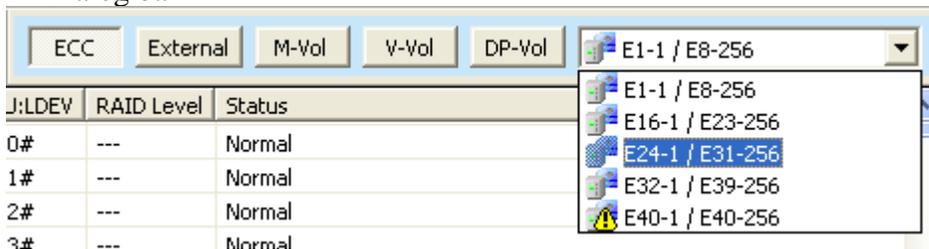


Table 3.6-3 Dialog bar

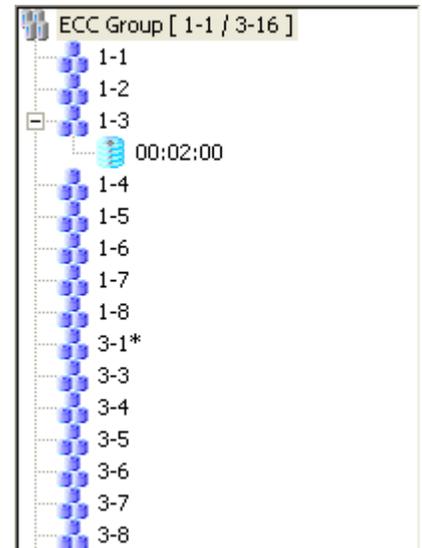
Item	Description
Button	Information displayed Displays the status of the device in each type. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled
	Button selection Displays the information of the device in each type on the tree/list.
Comb box	Information displayed Displays the defined group information by dividing it into 2048 at the maximum in the type selected with the button.  : Normal  : Abnormal
	Item selection Displays the information of the target device on the tree/list.

④ Tree

The logical device information is displayed in units of the group information and the LUSE information.

Table 3.6-4 Contents of Tree

Status display	Displays the warning icon  when the status of the parts is not normal.
Item selection	Displays the target information on the list.



⑤ List

The logical device information is displayed. Refer to 3.6.1 to 3.6.3 for the details.

LDEV	LDEV ID	LDEV Name	Status	P/N	Path	Bus
1-1	00:00:00-00:00:FF	RAID1(2D3D)	Normal			
1-2	00:01:00-00:01:3F	RAID1(2D3D)	Normal			
1-3	00:02:00-00:02:FF	RAID5(3D1P)	Normal			
1-4	00:03:00-00:03:3F	RAID5(3D1P)	Normal			
1-5	00:04:00-00:05:FF	RAID5(7D1P)	Normal			
1-6	00:06:00-00:06:ED	RAID5(7D1P)	Normal			
1-7	00:07:00-00:08:FF	RAID5(6D2P)	Normal			
1-8	00:09:00-00:09:CD	RAID5(6D2P)	Normal			
3-1*	00:0A:00-00:0D:FF	RAID5(7D1P)	Normal			
3-3	00:0E:00	RAID5(7D1P)	Normal			
3-4	00:0E:01	RAID5(7D1P)	Normal			
3-5	00:0E:02	RAID5(7D1P)	Normal			
3-6	00:0E:03	RAID5(7D1P)	Normal			
3-7	00:0E:04	RAID5(7D1P)	Normal			
3-8	00:0E:05	RAID5(7D1P)	Normal			
3-9	00:0E:06	RAID5(7D1P)	Normal			
3-10	00:0E:07	RAID5(7D1P)	Normal			
3-11	00:0E:08	RAID5(7D1P)	Normal			
3-12	00:0E:09	RAID5(7D1P)	Normal			
3-13	00:0E:0A	RAID5(7D1P)	Normal			
3-14	00:0E:0B	RAID5(7D1P)	Normal			
3-15	00:0E:0C	RAID5(7D1P)	Normal			
3-16	00:0E:0D	RAID5(7D1P)	Normal			

⑥ Status Bar

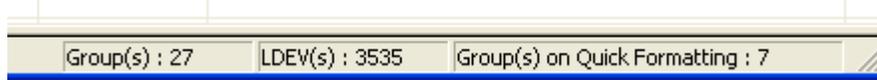
The number of devices of the information displayed on the tree/list right now is displayed.

- In case of the group unit display

There is no device executing Quick Format.

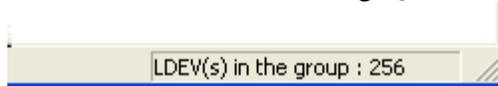


There is the device executing Quick Format.



- In case of the device unit display

There is no device executing Quick Format.



There is the device executing Quick Format.

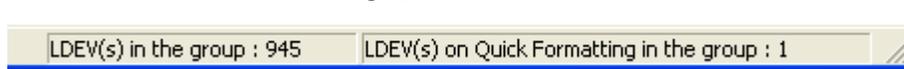


Table 3.6-5 Contents of Status Bar

Item	Description	
In case of the group unit display	“Group(s)”	Displays the total number of the groups displayed on the list.
	“LDEV(s)”	Displays the total number of the devices set in the groups displayed on the list.
	“Group(s) on Quick Formatting”	The number of groups including devices executing Quick Format is displayed in the listed and displayed groups.
In case of the LDEV unit display	“LDEV(s) in the group”	Displays the total number of the devices displayed on the list.
	“Formatting in the group”	The total device number executing Quick Format is displayed in the listed and displayed devices.

Table 3.6-6 List of Group Information

#	Item	Description
①	Detailed information	Displays detailed information such as a status of a group.
		<p>[Grp.] Name of a group</p> <p>“E” : External Volume Group</p> <p>“V” : Virtual Volume Group for Copy-on-Write Snapshot/Thin Image</p> <p>“X” : DP Volume Group</p> <p>“M” : Migration Volume Group</p> <p>“P” : Pool Volume exists in group</p> <p>“*” : RAID Concatenation</p>
		<p>[LDKC:CU:LDEV] Device information belonging to a group</p> <p>“#” : External Volume</p> <p>“V” : Virtual Volume for Copy-on-Write Snapshot/Thin Image</p> <p>“X” : DP Volume</p> <p>“M” : Migration Volume</p>
		[RAID Level] RAID level of a group
		[Sys.] Existence of System Disk. (System Disk exists in group: “*” display)
		<p>[Status] Status of a group</p> <p>“Normal” : Normal</p> <p>“Normal (Quick Formatting exists)” : Normal (Quick Formatting exists)</p> <p>“Blocked” : Blocked</p> <p>“Copying” : Copying</p> <p>“Correction Access” : Correction access (without redundancy)</p> <p>“Correction Access with redundancy” : Correction access (with redundancy)</p> <p>“Warning” : Warning (mixed status in the group, etc.)</p> <p>“-----” : No information available because the device in the group is uninstalled.</p> <p>“Formatting” : Formatting</p>
		<p>[NDM] Attribute of Nondisruptive Migration function</p> <p>“Enable” : Function is Enable</p> <p>“Disable” : Function is Disable</p> <p>Displays the [NDM] column only when the group kind (cf. summary of [Grp.]) is External Volume Group.</p>

Table 3.6-7 List of Device information

#	Item	Description
①	Detailed information	Displays detailed information such as a status of a device.
		<p>[LDKC:CU:LDEV] Image</p> <p> : Volume of normal status</p> <p> : Volume of quick formatting</p> <p> : Volume is blocked or warning</p> <p> : Volume of LUSE</p> <p> : Volume of quick formatting LUSE</p> <p> : Volume of LUSE is blocked or warning</p> <p>Name of a device</p> <p>“#” : External Volume</p> <p>“V” : Virtual Volume for Copy-on-Write Snapshot/Thin Image</p> <p>“X” : DP Volume</p> <p>“M” : Migration Volume</p>
		<p>[Emulation] Emulation type (Displayed the number of connected LDEV for LUSE if the device is LUSE volume (Eg. OPEN-V * 3).)</p>
		<p>[Sys.] Existence of System Disk. (System Disk exists: “*” display)</p>
		<p>[Status] Status of a device</p> <p>“Normal” : Normal</p> <p>“Normal (Quick Formatting)” : Normal (Quick Formatting)</p> <p>“Normal (Quick Formatting exists)” : Normal (Quick Formatting exists) (Only the head device of LUSE)</p> <p>“Blocked” : Blocked</p> <p>“Copying” : Copying</p> <p>“Correction Access” : Correction access (without redundancy)</p> <p>“Correction Access with redundancy” : Correction access (with redundancy)</p> <p>“Warning” : Warning (mixed status in the LUSE, etc.)</p> <p>“Formatting” : Formatting</p>

(To be continued)

(Continued from preceding sheet)

#	Item	Description
①	Detailed information	Displays detailed information such as a status of a device.
		[Pin] Existence of Pin (Pin exists: "*" display)
		[Path] Existence of Path (Path exists: "*" display)
		[Pool ID] ID number of Pool Volume "-----" : Not Pool Volume
		[NDM] Attribute of Nondisruptive Migration function "Enable" : Function is Enable "Disable" : Function is Disable Displays the [NDM] column only when the group that include the LDEV is External Volume Group (cf. summary of [LDKC:CU:LDEV]).
②	Group information	Displays the group information to which the device belongs and its RAID level.
③	HDD information	Displays HDD to install the group information to which the device belongs.
		[HDD] Location of HDD  : Normal  : Blocked
		[Remarks] Displays the additional information for HDD.

3.6.3 List of LUSE information

LDKC:CU:LDEV	Emulation	Status	Grp.
① 00:02:00	OPEN-V	Normal	1-3
00:02:01	OPEN-V	Normal	1-3
00:02:02	OPEN-V	Normal	1-3
00:02:03	OPEN-V	Normal	1-3

Table 3.6-8 List of LUSE information

#	Item	Description
①	Detailed information	Displays detailed information such as a status of LUSE device.
	[LDKC:CU:LDEV]	Name of a device “#” : External Volume “V” : Virtual Volume for Copy-on-Write Snapshot/Thin Image “X” : DP Volume “M” : Migration Volume
	[Emulation]	Emulation type
	[Status]	Status of a device “Normal” : Normal “Normal (Quick Formatting)” : Normal (Quick Formatting) “Blocked” : Blocked “Copying” : Copying “Correction Access” : Correction access (without redundancy) “Correction Access with redundancy” : Correction access (with redundancy) “Warning” : Warning (mixed status in the LUSE, etc.) “Formatting” : Formatting
	[Grp.]	Displays the group information to which the device belongs

3.6.4 Shredding operation information

When Shredding is executed from the user operation (Storage Navigator) to the logical device at the time of starting the logical device window, the operation progress window is displayed.

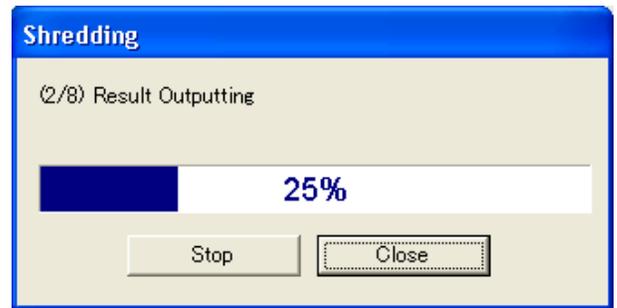
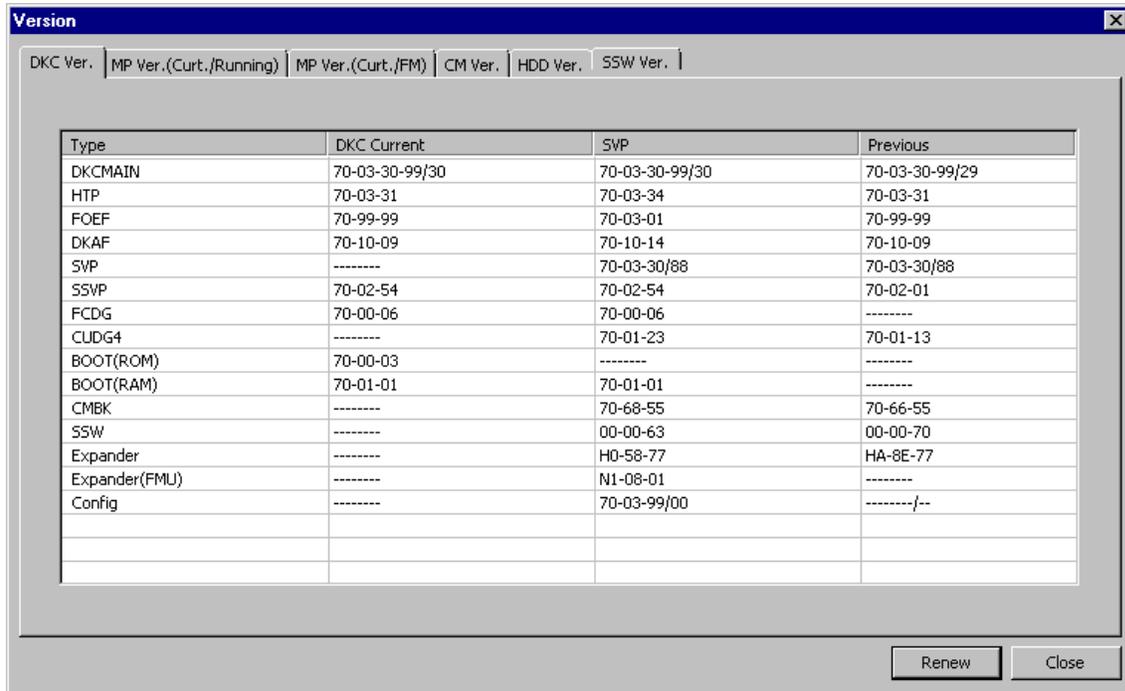


Table 3.6-9 Contents of Shredding Operation Progress Window

Item	Description
[Close]	Closes the progress window.
[Stop]	Stops Shredding. Caution: Be sure to check with the user in advance.

3.7 Version of Microprogram

Select (CL) [Version] in this order in the 'Maintenance' window.
The 'Version' window is displayed.



Type	DKC Current	SVP	Previous
DKCMAIN	70-03-30-99/30	70-03-30-99/30	70-03-30-99/29
HTP	70-03-31	70-03-34	70-03-31
FOEF	70-99-99	70-03-01	70-99-99
DKAF	70-10-09	70-10-14	70-10-09
SVP	-----	70-03-30/88	70-03-30/88
SSVP	70-02-54	70-02-54	70-02-01
FCDG	70-00-06	70-00-06	-----
CLDGG4	-----	70-01-23	70-01-13
BOOT(ROM)	70-00-03	-----	-----
BOOT(RAM)	70-01-01	70-01-01	-----
CMBK	-----	70-68-55	70-66-55
SSW	-----	00-00-63	00-00-70
Expander	-----	H0-58-77	HA-8E-77
Expander(FMLU)	-----	N1-08-01	-----
Config	-----	70-03-99/00	-----/--

When the each tab is selected (CL), information on the corresponding version is displayed.

- ①[DKC Ver.] : A representative version is displayed (Initial display).
- ②[MP Ver.(Curt./Running)] : The DKC Current Version is displayed. The version in Port and MP are displayed in Running.
- ③[MP Ver.(Curt./FM)] : The DKC Current Version is displayed. The version in FM of PCB is displayed in FM.
- ④[CM Ver.] : The version of CMBK and the version of CMSSD are displayed.
- ⑤[HDD Ver.] : A version of a Drive is displayed.
- ⑥[SSW Ver.] : The version of SSW and the version of Expander are displayed.

<About the display>

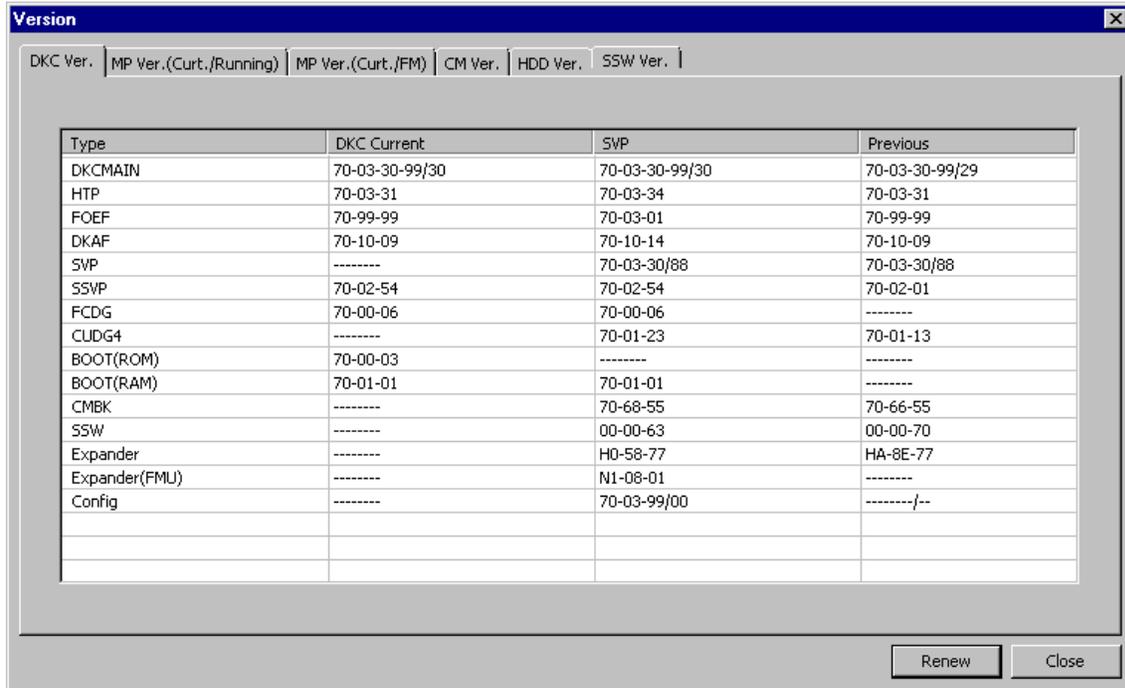
When a version of the microprogram concerned cannot be displayed for some reason, the following is displayed.

- “-” (Hyphen) : The microprogram is not installed.
- “?” (Question mark): Getting of the version information failed.
- “x” : The data that has been got is outside the range of application.

<Update of the information>

To update the information, which is displayed through the selection of 'Version', to the latest one, select (CL) the [Renew] button.

① The representative version



Type	DKC Current	SVP	Previous
DKCMAIN	70-03-30-99/30	70-03-30-99/30	70-03-30-99/29
HTP	70-03-31	70-03-34	70-03-31
FOEF	70-99-99	70-03-01	70-99-99
DKAF	70-10-09	70-10-14	70-10-09
SVP	-----	70-03-30/88	70-03-30/88
SSVP	70-02-54	70-02-54	70-02-01
FCDG	70-00-06	70-00-06	-----
CUDG4	-----	70-01-23	70-01-13
BOOT(ROM)	70-00-03	-----	-----
BOOT(RAM)	70-01-01	70-01-01	-----
CMBK	-----	70-68-55	70-66-55
SSW	-----	00-00-63	00-00-70
Expander	-----	H0-58-77	HA-8E-77
Expander(FMLU)	-----	N1-08-01	-----
Config	-----	70-03-99/00	-----/--

Table 3.7-1 Information to Be Displayed

Item	Description
Type	Name of the microprogram. A SMI-S version, which is displayed in red-white-reversal, is inconsistent with the currently running version.
DKC Current	Major version of the microprogram currently running.
SVP	Latest version of the microprogram stored in the SVP.
Previous	Former version of the microprogram stored in the SVP.

Concerning this item, when even a single piece of information is inconsistent, an icon “SVP03-390

② Current Version of each processor and Version in port

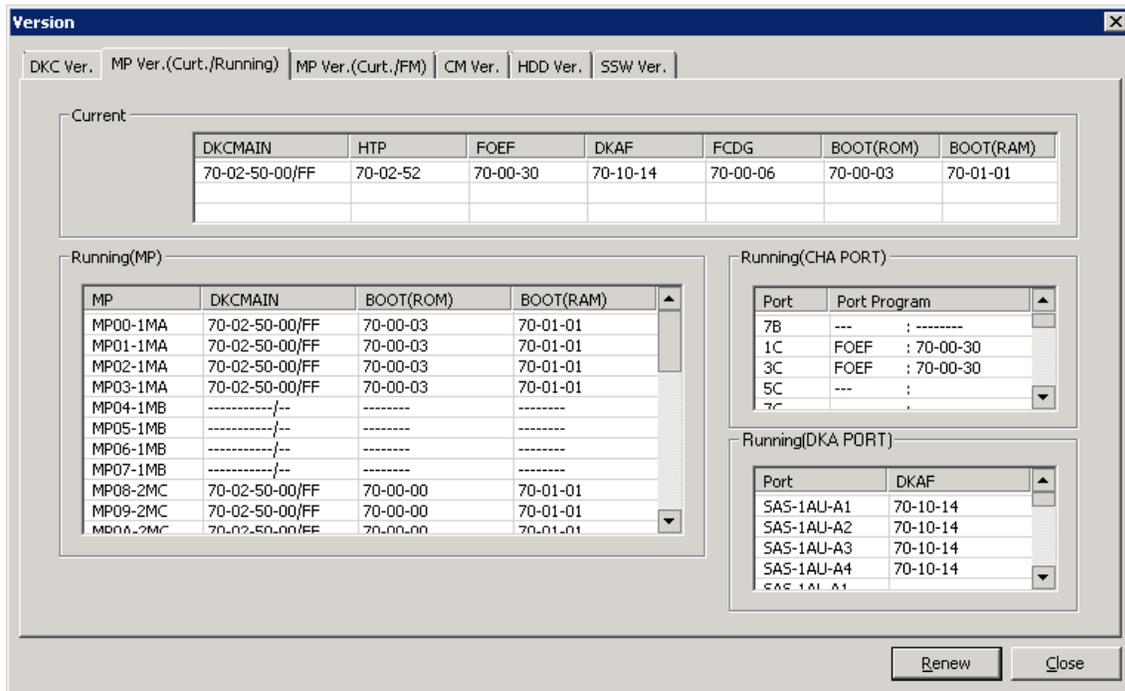


Table 3.7-2 Information to Be Displayed

Item	Description
DKC Current Version area	Major version of the microprogram currently running. The area of a version in the following situations is displayed in red-white-reversal with an asterisk (“*”) : <ul style="list-style-type: none"> • A version is inconsistent with a corresponding version in the MP Version area or in the binary version (Internal administrative information). • Microprogram exchange is failed.
MP Version area	Version of the microprogram of each processor currently running. A version, which is displayed in red-white-reversal, is inconsistent with the DKC Current Version. A version displayed with an asterisk (“*”) at the end of it is the inconsistent one.
CHA PORT area	The version is displayed. Running version of port program (HTP / FOEF) of each Port is displayed. The target type name is displayed.
DKA PORT area	The SAS-CON Running version is displayed. The Location name is displayed.

Concerning this item, when even a single piece of information is inconsistent, an icon “”, which shows an error, is displayed in the tab portion.

- ③ The DKC Current Version is displayed. The version in FM of PCB is displayed in FM.

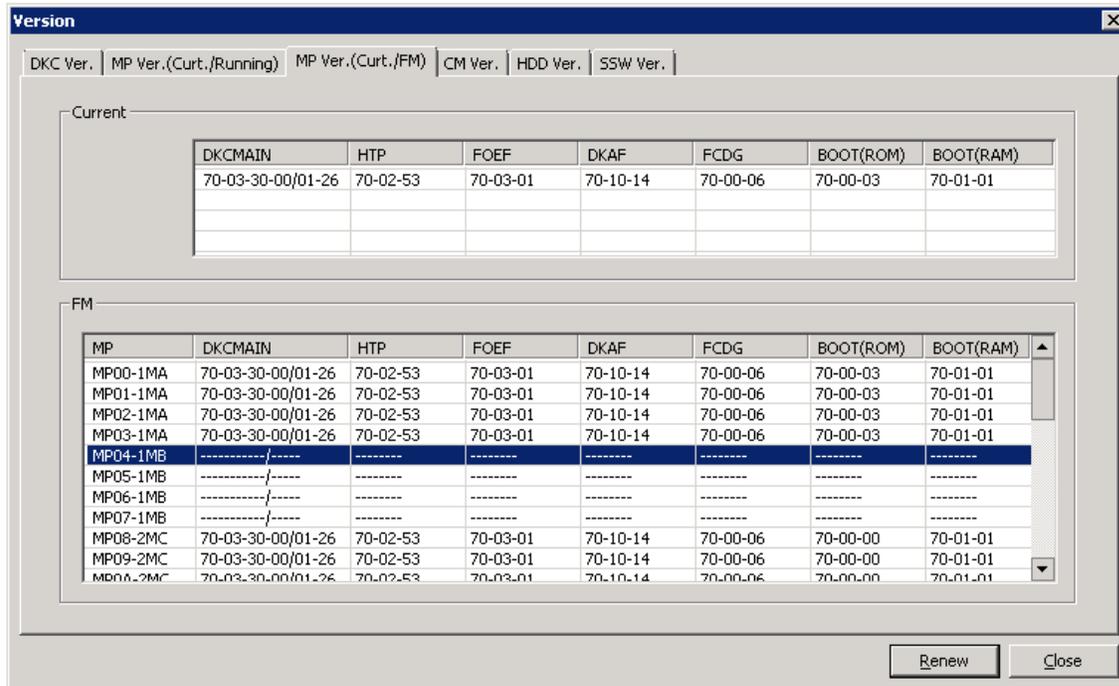


Table 3.7-3 Information to Be Displayed

Item	Description
DKC Current Version area	<p>Major version of the microprogram currently running.</p> <p>The area of a version in the following situations is displayed in red-white-reversal with an asterisk (“*”):</p> <ul style="list-style-type: none"> • A version is inconsistent with a corresponding version in the FM Version area or in the binary version (Internal administrative information). • Microprogram exchange is failed.
FM Version area	<p>Version of FM microprogram of each processor.</p> <p>A version, which is displayed in red-white-reversal, is inconsistent with the DKC Current Version. A version displayed with an asterisk (“*”) at the end of it is the inconsistent one.</p>

Concerning this item, when even a single piece of information is inconsistent, an icon “SVP03-410

④ Version of the CMBK

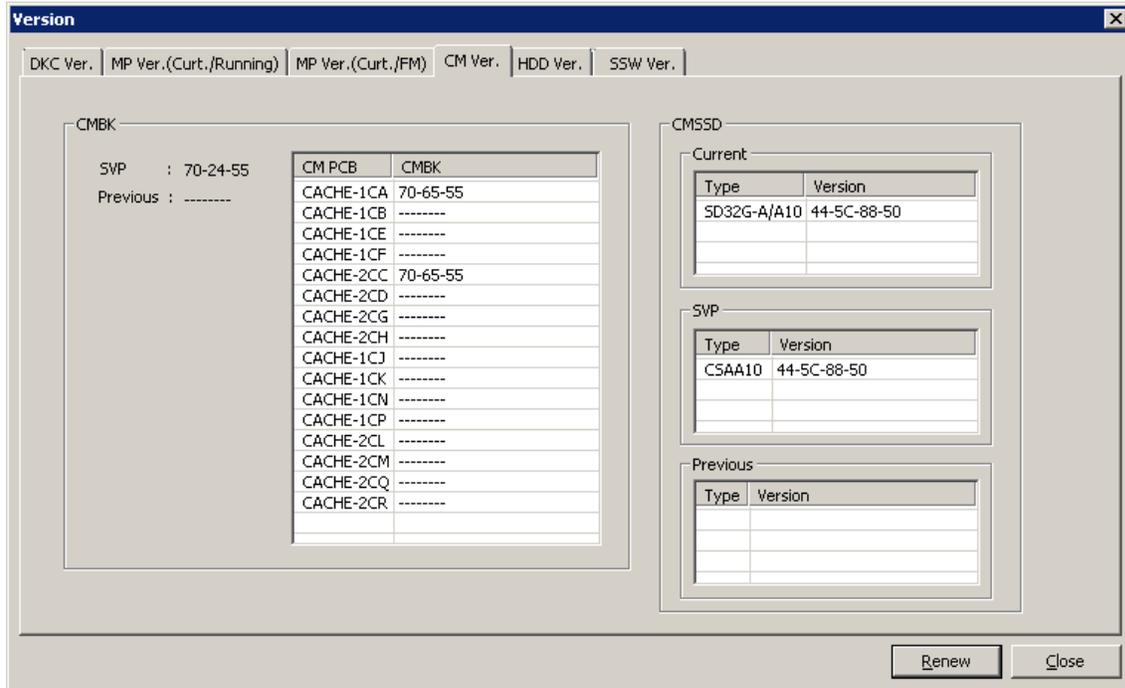


Table 3.7-4 Information to Be Displayed

Item	Description
• Display of "CMBK"	
Display of "Current"	"SVP" : Latest version of the drive microprogram stored in the SVP. "Previous" : Previous version of the drive microprogram stored in the SVP. "CM PCB" : CM name "CMBK" : CMBK micro version information (It is stored in FM) that each CM PCB has is displayed.
• Display of "CMSSD"	
Display of "Current"	Current Version. "Type" : SSD type model "Version" : Version of SSD microprogram
Display of "SVP"	Latest version of the SSD microprogram stored in the SVP. "Type" : SSD type "Version" : Version of SSD microprogram
Display of "Previous"	Former version of the SSD microprogram stored in the SVP. "Type" : SSD type "Version" : Version of SSD microprogram

<Display of the SSD name>

Select (DC) a line from the [CMSSD]-[Current] list.

The 'SSD List' window is displayed and a list of SSD that are consistent with the information is shown.

CM PCB	SSD
CACHE-1CA	SSD0
CACHE-2CC	SSD0

Table 3.7-5 Information to Be Displayed

Item	Description
SSD Type	Selected SSD type.
Version	Selected SSD microprogram version.
SSD Location	List of the SSD consistent with the selected information. "CM PCB" : CM name that exists in SSD List "SSD" : SSD name that exists in CM PCB

- ⑤ A version of a Drive is displayed.

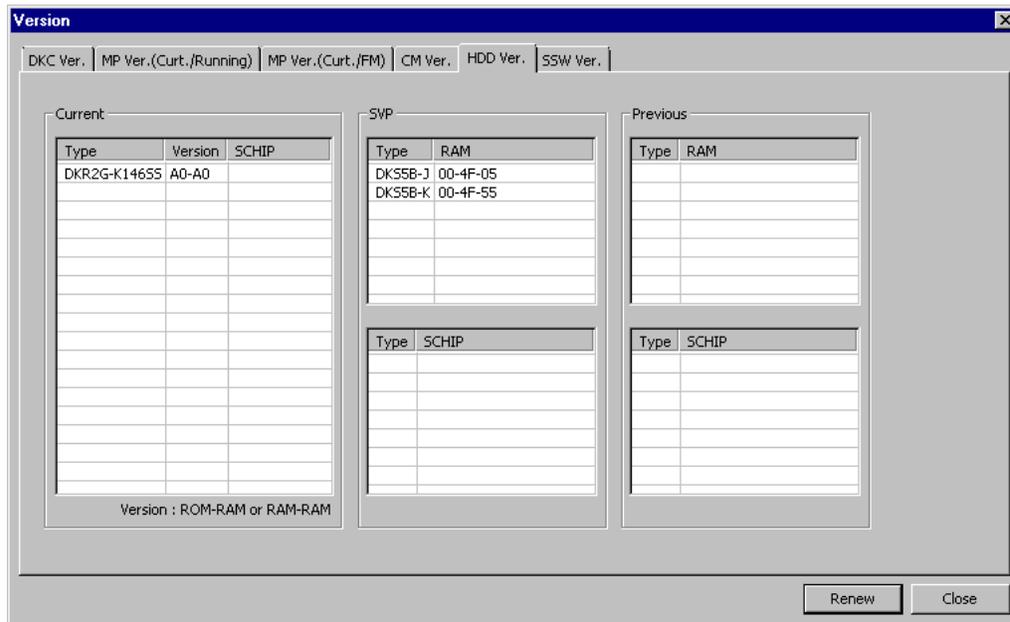


Table 3.7-6 Information to Be Displayed

Item	Description
• Display of “HDD”	
Display of “Current”	Current Version. “Type” : Drive type “Version” : Version of drive microprogram OEM drive: RAM version - RAM version Other than above: ROM version - RAM version “SCHIP” : Version of SCHIP microprogram (S-ATA only)
Display of “SVP”	Latest version of the drive microprogram stored in the SVP. Top of list : Version of drive microprogram Bottom of list : Version of SCHIP microprogram
Display of “Previous”	Former version of the drive microprogram stored in the SVP. Top of list : Version of drive microprogram Bottom of list : Version of SCHIP microprogram

<Display of the drive name>

Select (DC) a line from the [HDD]-[Current] list.

The 'HDD List' window is displayed and a list of drives that are consistent with the information is shown.

Table 3.7-7 Information to Be Displayed

Item	Description
Drive Type	Selected drive type.
Version	Selected drive microprogram version.
SCHIP	Selected SCHIP microprogram version.
HDD Location	List of the drive consistent with the selected information.

- ⑥ A version of a SSW is displayed.

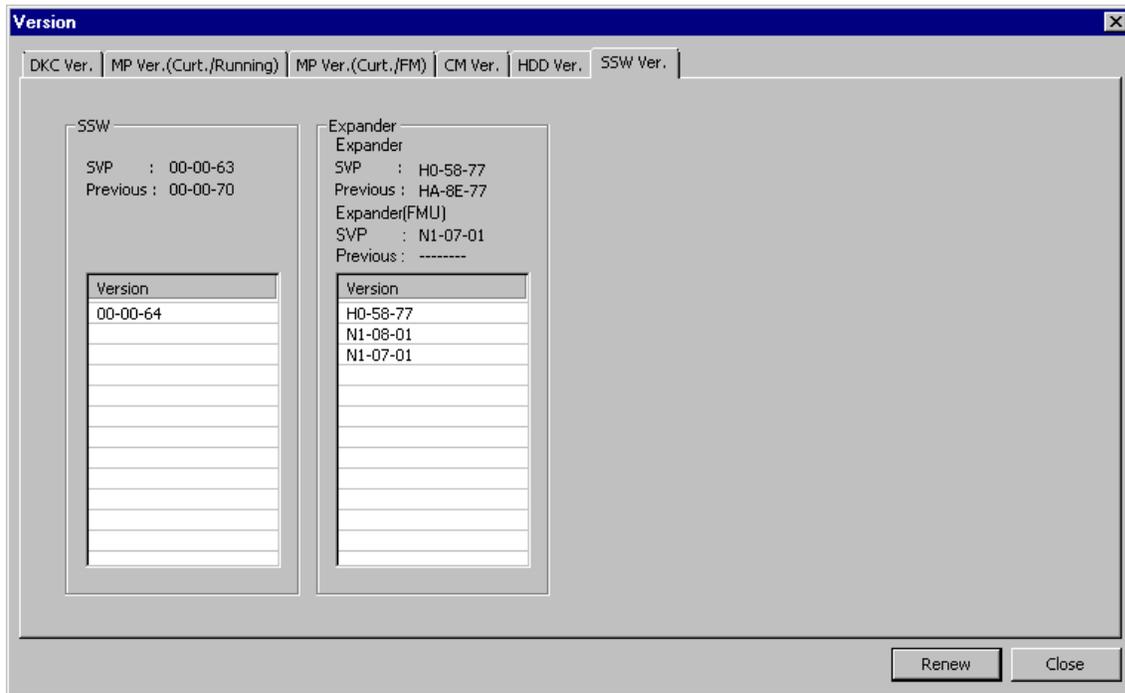


Table 3.7-8 Information to Be Displayed

Item	Description
Display of "SSW"	<p>"SVP" : Latest version of the SSW microprogram stored in the SVP.</p> <p>"Previous" : Former version of the microprogram stored in the SVP.</p> <p>"Version" : Current version of microprogram of each SSW.</p>
Display of "Expander"	<p>"SVP" : Latest version of the Expander microprogram stored in the SVP.</p> <p>"Previous" : Former version of the microprogram stored in the SVP.</p> <p>"Version" : Current version of microprogram of each Expander (include each version of below "Expander(FMU)").</p>
Display of "Expander(FMU)"	<p>"SVP" : Latest version of the Expander microprogram stored in the SVP.</p> <p>"Previous" : Former version of the microprogram stored in the SVP.</p>

When versions that are more individual than versions of SVP in SSW and Expander are low, the icon "⚠" that shows abnormality in the tab part is displayed.

<Display of the SSW name>

Select (DC) a line from the [SSW]-[Current] list.

The 'SSW List' window is displayed and a list of SSW that is consistent with the information is shown.

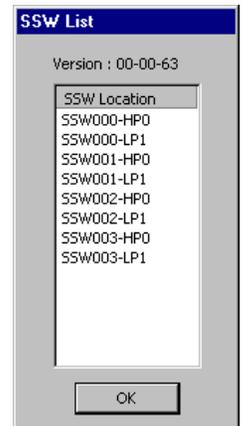


Table 3.7-9 Information to Be Displayed

Item	Description
Version	Selected SSW microprogram version.
SSW Location	List of the SSW consistent with the selected information.

<Display of the SSW name>

Select (DC) a line from the [Expander]-[Version] list.

The 'Expander List' window is displayed and a list of SSW that is consistent with the information is shown.

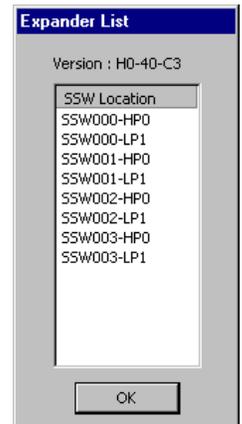


Table 3.7-10 Information to Be Displayed

Item	Description
Version	Selected Expander microprogram version.
SSW Location	List of the SSW consistent with the selected version.

3.8 Path of HTP

When [Main Frame Path...] is selected (CL) in the 'Maintenance' window, the 'Main Frame Path Information' window is displayed.

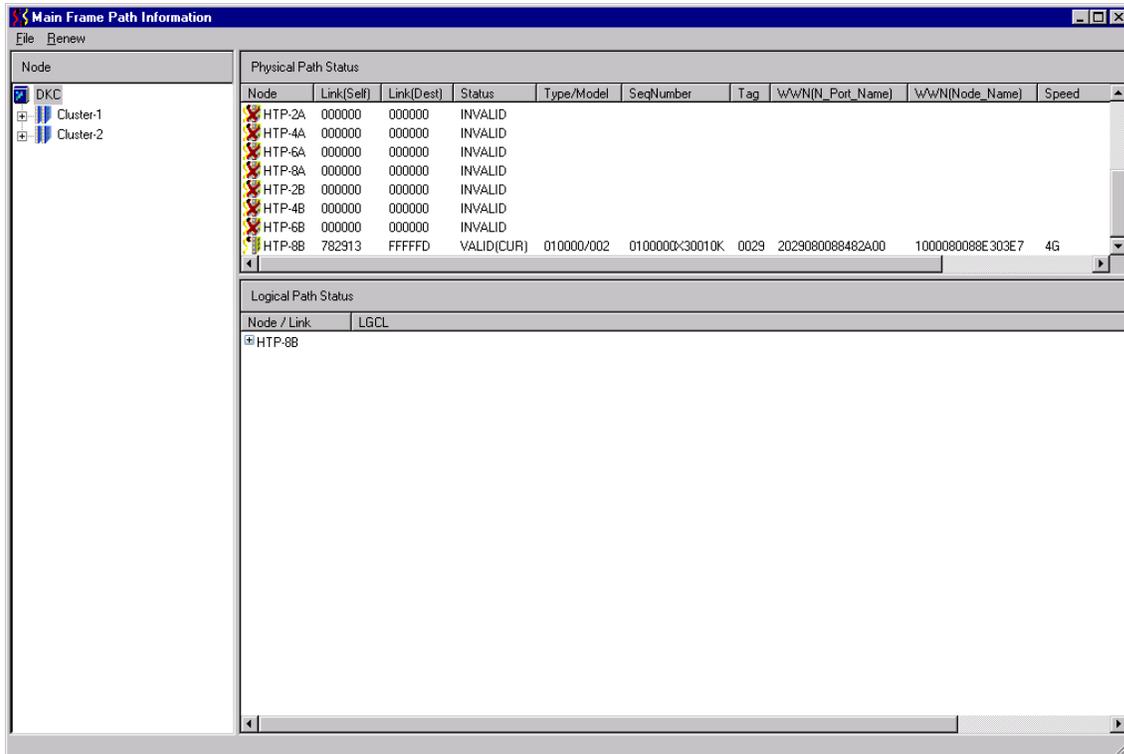


Table 3.8-1 Outline of Each Part

Item	Description
Menu	Menu items that can be operated by this function.
Tree	Installed ports are displayed hierarchically taking hardware configuration in consideration.
Upper list	Physical path information concerning the item selected from the tree is displayed.
Lower list	Logical path information concerning the item selected from the tree is displayed.

Table 3.8-2 List of Menus

Menu	Sub-menu	Description
File	Exit	Closes a window.
Renew	Renewal	Updates displayed information.

To exit the display, press [Close].

(1) Physical path

When a scope wanted to be referred to (subsystem, each cluster, each CHA, or port concerned) is selected (CL) from the tree, the related physical path information is displayed in a list at the upper right part of the window. (In the example shown in the figure below, CHA has been selected (CL) and the physical path information on the port installed in the CHA is displayed.)

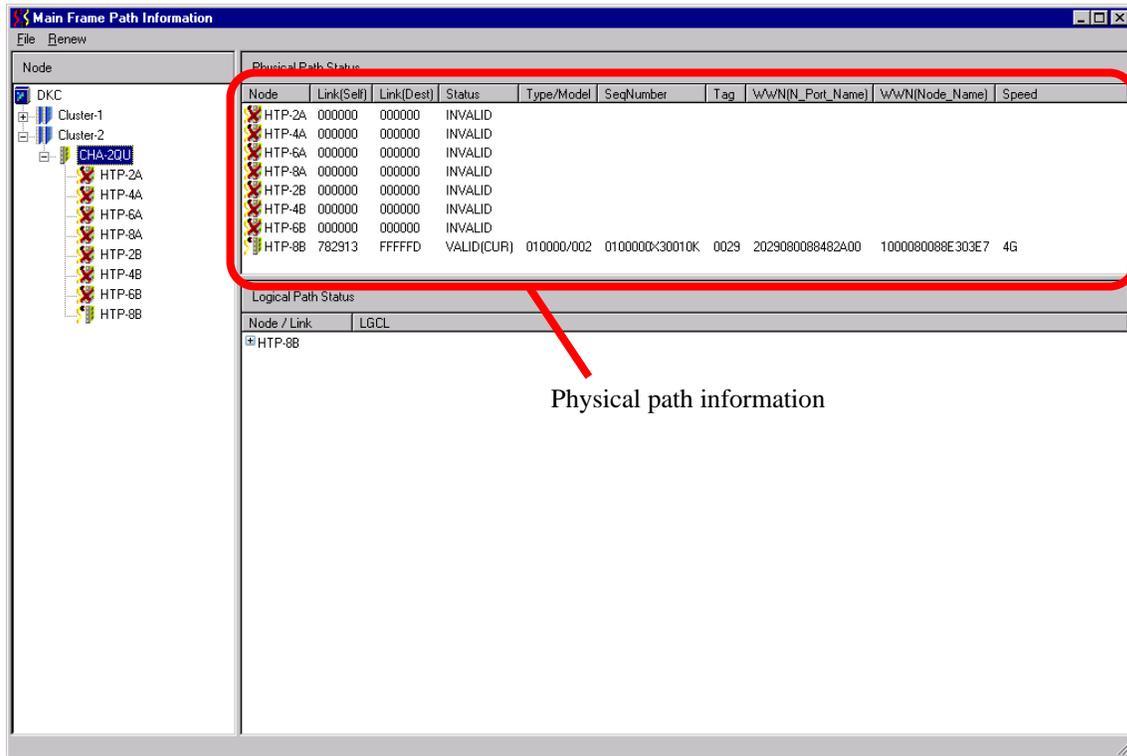


Table 3.8-3 Items Displayed in the Physical Path Information List

Item	Description
Node	Location where the HTP is installed.
Link(Self)	Link address of the HTP.
Link(Dest)	Link address of a host connected.
Status	Status in which a node ID is acquired.
Type/Model	Type/model name of a host connected.
SeqNumber	Product serial number of a host connected.
Tag	Tag of a host connected.
WWN(N_Port_Name)	N_port name of a host connected.
WWN(Node_Name)	Node name of a host connected.
Speed	Bandwidth of link transfer.

(2) Logical path

When a scope wanted to be referred to (subsystem, each cluster, each CHA, or port concerned) is selected (CL) from the tree, the related logical path information is displayed in a list at the lower right part of the window. (In the example shown in the figure below, CHA has been selected (CL) and the logical path information on the port installed in the CHA is displayed.)

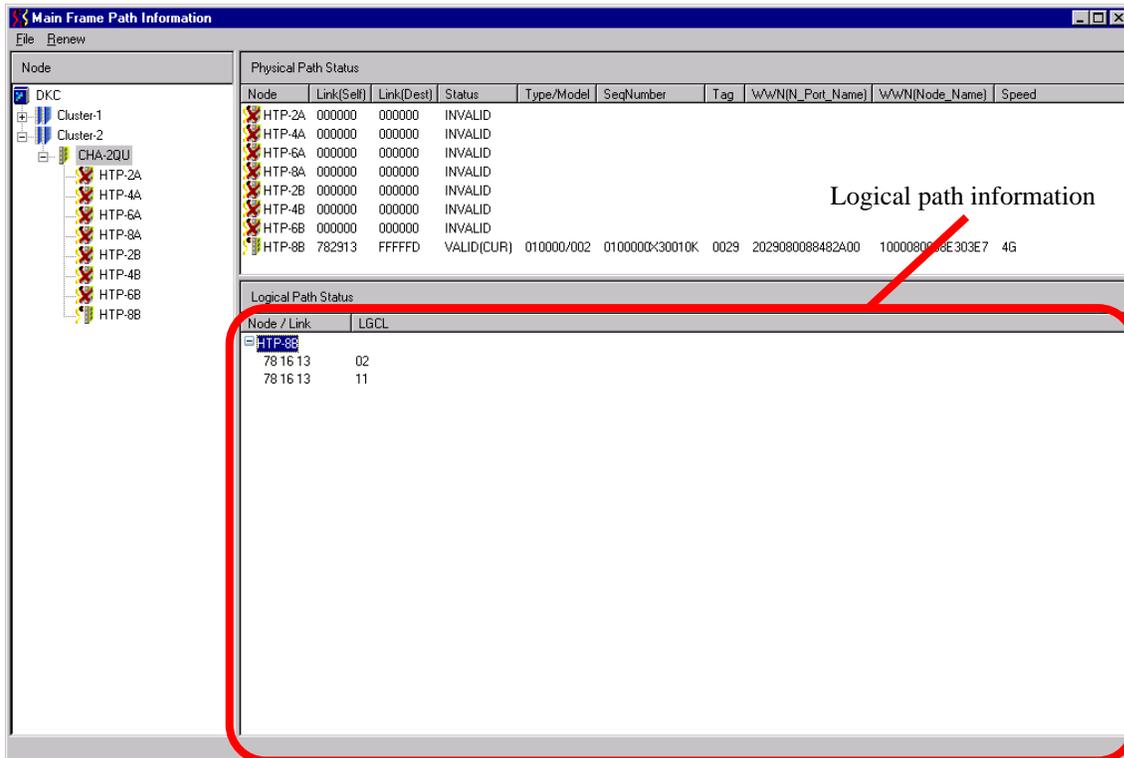
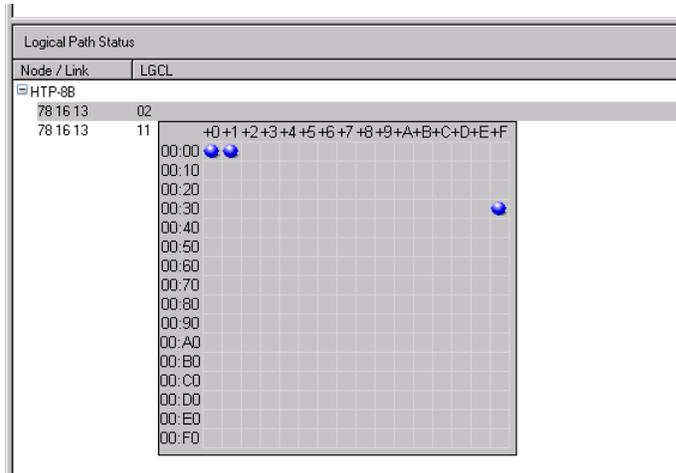


Table 3.8-4 Items Displayed in the Logical Path Information List

Item	Description
Node	Location where the HTP, in which the logical path exists, is installed.
Link	Link address of a host connected.
LGCL	Logical address of a host connected.

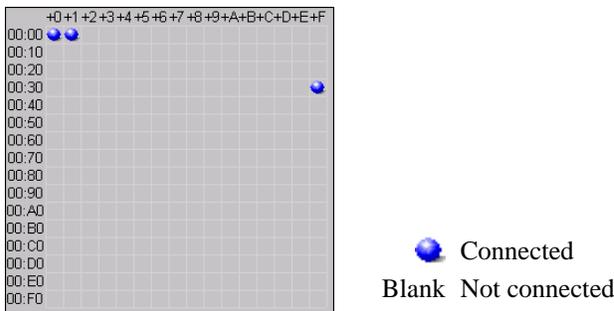
■ Seeing a CU# of the controller connected

To see a CU# (control unit address) of the controller connected, position the mouse pointer on the displayed LINK/LGCL information concerned and select (CL) the information after making sure that it is highlighted (underlined in blue).

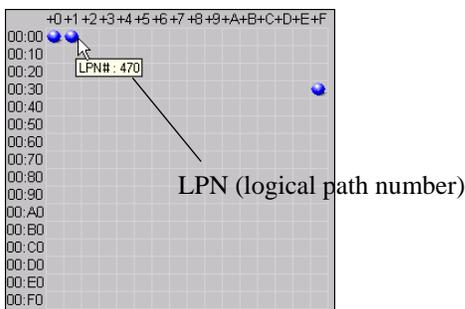


<Window displaying CU# of the controller connected>

The CU# (control unit address) of the controller connected is displayed. In the example shown in the figure below, CU#00, CU#01, and CU#3F are the CU#'s of the controllers connected.



When the mouse pointer is positioned at the place displayed as the CU# of the controller connected, the corresponding LPN (logical path number) is displayed.



3.9 Pin

When [Pin...] is selected (CL) in the 'Maintenance' window, the 'Pinned Track' window is displayed.

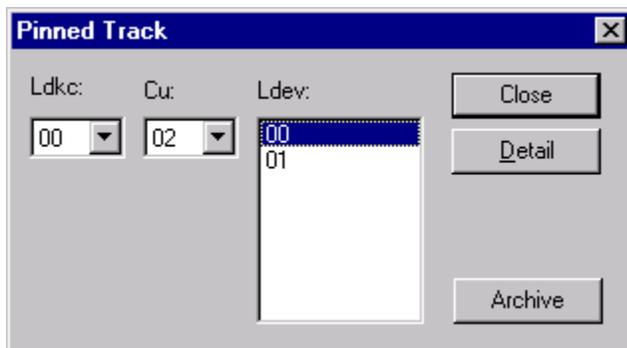


Table 3.9-1 List of Items

Item	Description
Ldkc	Logical DKC number
Cu	ID number of a Cu
Ldev	Number of a logical device in which pinned data exists

When a logical device is selected (CL) from the list in the ‘Pinned Track’ window and the [Detail] button is selected (CL), the ‘Detail’ window is displayed.

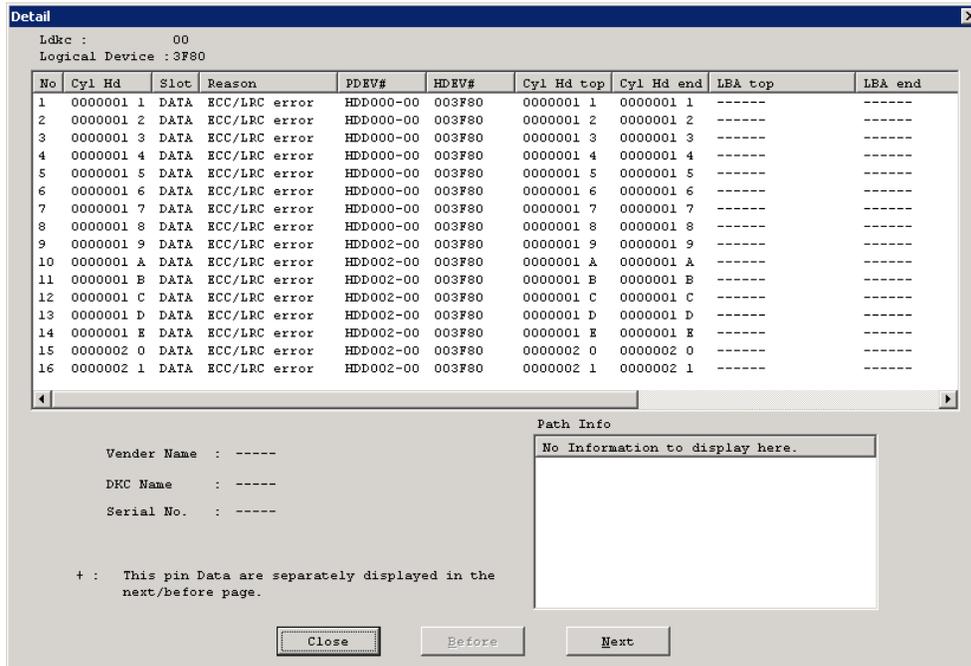


Table 3.9-2 List of Items

Item	Description
Cyl Hd	Number of an assembly of a cylinder and head in which pinned data exists (*1)
Slot	Type of a track on which pinned data exists DATA: Data track PRTY: Parity track
Reason	Cause of pinned data. See the “4. Recovery for Pinned Tracks” (TRBL04-10) for the recovery procedure at the following reason. ECC/LRC error WRITE error External VOL Read Error External VOL Write Error
PDEV#	Number of an HDD of a logical device in which pinned data exists
HDEV#	HDEV number
Cyl Hd top/end	Cyl Hd at the top and end of a parity stripe (*1)
LBA top/end	LBA at the top and end of a parity stripe
HDEV# (DP)	HDEV number in Dynamic Provisioning
LBA (DP) top/end	LBA at the top and end of a parity stripe in Dynamic Provisioning
Vender Name	Name of a vender of a external Device
DKC Name	Name of a DKC of a external Device
Serial No.	Serial number of a external Device
Path Info	Path information of a external Device

*1: This value is invalid and is displayed with “OFFFFFF E” when this HDEV is the TSE-VOL. See the “8. ShadowImage for Mainframe/ShadowImage/FlashCopy (R) V2/FlashCopy (R) SE Error Recovery” (TRBL08-10) for the PIN track recovery procedure of TSE-VOL.

3.10 LUN Management

(1) Outline

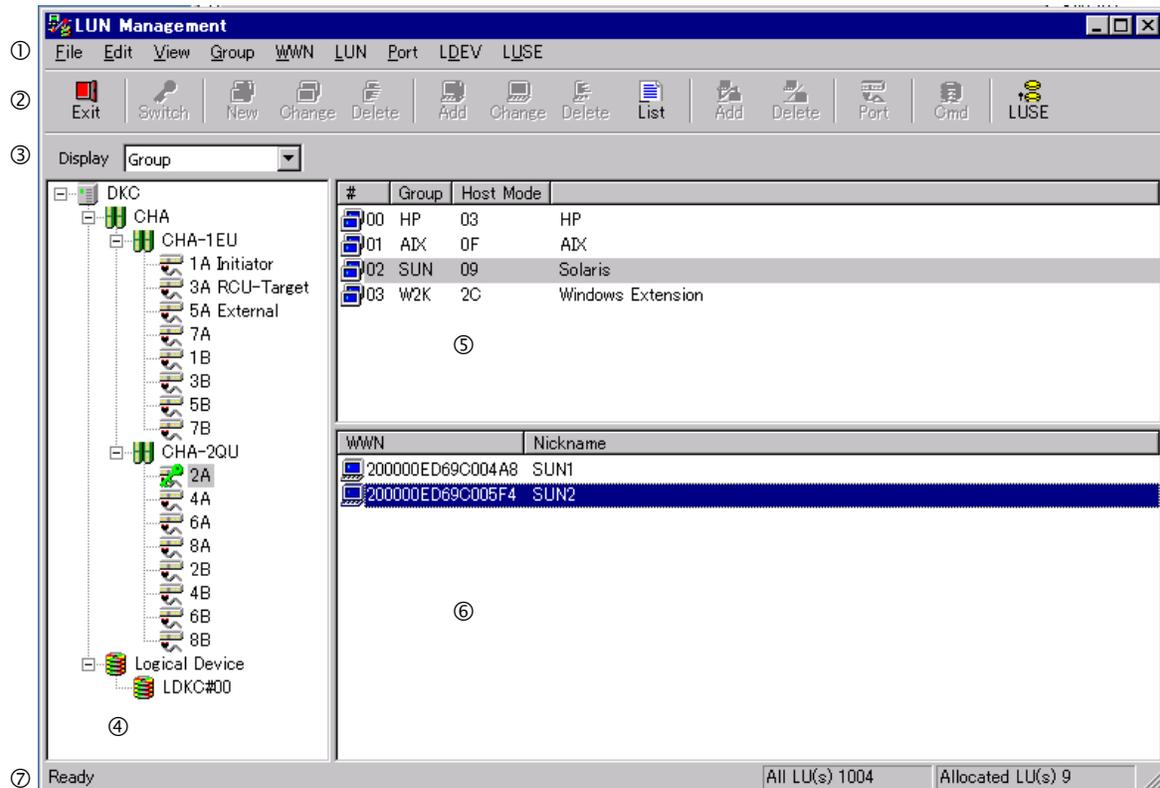


Fig. 3.10-1 Main Window

The Main window consists of the following elements.

Table 3.10-1 Outline of Main Window Elements

#	Item	Description
①	Menu	Menu of items operable by this function.
②	Tool bar	Part of the menu enabled to be operable by buttons.
③	Switch	When “Switch” displayed in the tree view is selected (Port), the status of the switch is selectable. The setting of the groups or LUN is selectable.
④	Tree	The structure that it is conscious of the hardware construction.(A port type is attached to a port.)
⑤	Upper list	Displays the details of an item selected from the tree.
⑥	Lower list	Displays the details of an item selected from the upper list, if any.
⑦	Status bar	Displays outlined function of each item on the menu and tool bar when the mouse is positioned on it. Also it displays the all of the LU figures and the LU figures with the pass definition.

Notice:

When configuration setting is changed in the background while LUN Management window from Maintenance window has been opened, the display contents may be different from setting.

Open the LUN Management screen again to display the latest information.

Menu items and their details are shown below.

Table 3.10-2 List of Menu Items

Menu	Submenu	Description	Tool bar
File	Exit	• Closes the window.	 (Exit)
Edit	Copy	• Not selectable.	None
	Paste	• Not selectable.	None
View	Toolbar	• Makes the tool bar displayed or not.	None
	Status Bar	• Makes the status bar displayed or not.	None
	LDEV Size	• Changes the unit of LDEV size to be displayed to MB or GB.	None
	LUN Status	• Displays/does not display the LUN status (including the Host reserve status) in the LUN list.	None
Group	New	• Not selectable.	 (New)
	Change	• Not selectable.	 (Change)
	Delete	• Not selectable.	 (Delete)
	Host Mode	• Refers to the Host Mode and the Host Mode Option.	None
WWN	Add	• Not selectable.	 (Add)
	Change...	• Not selectable.	 (Change)
	Delete	• Not selectable.	 (Delete)
	Login List	• The hosts identified by the following WWN login to the DKC. (Only WWN has the deletion function.)	 "List"
LUN	Add	• Not selectable.	 (Add)
	Delete	• Not selectable.	 (Delete)
	Command Device...	• Not selectable.	 (Cmd)
	Force Reset	• Cannot be selected. (When the [View]–[LUN Status] menu cannot be selected, this menu does not exist.)	None
Port	Parameter...	• Not selectable.	 (Port)
	Security Switch	• Not selectable	 (Switch)
LDEV	Command Device...	• Not selectable.	 (Cmd)
	Alternate	• Refers to LUN information from LDEV.	None
LUSE	LU Size Expansion	• Activates the LU Size Expansion window.	 (LUSE)

(2) CHA Window

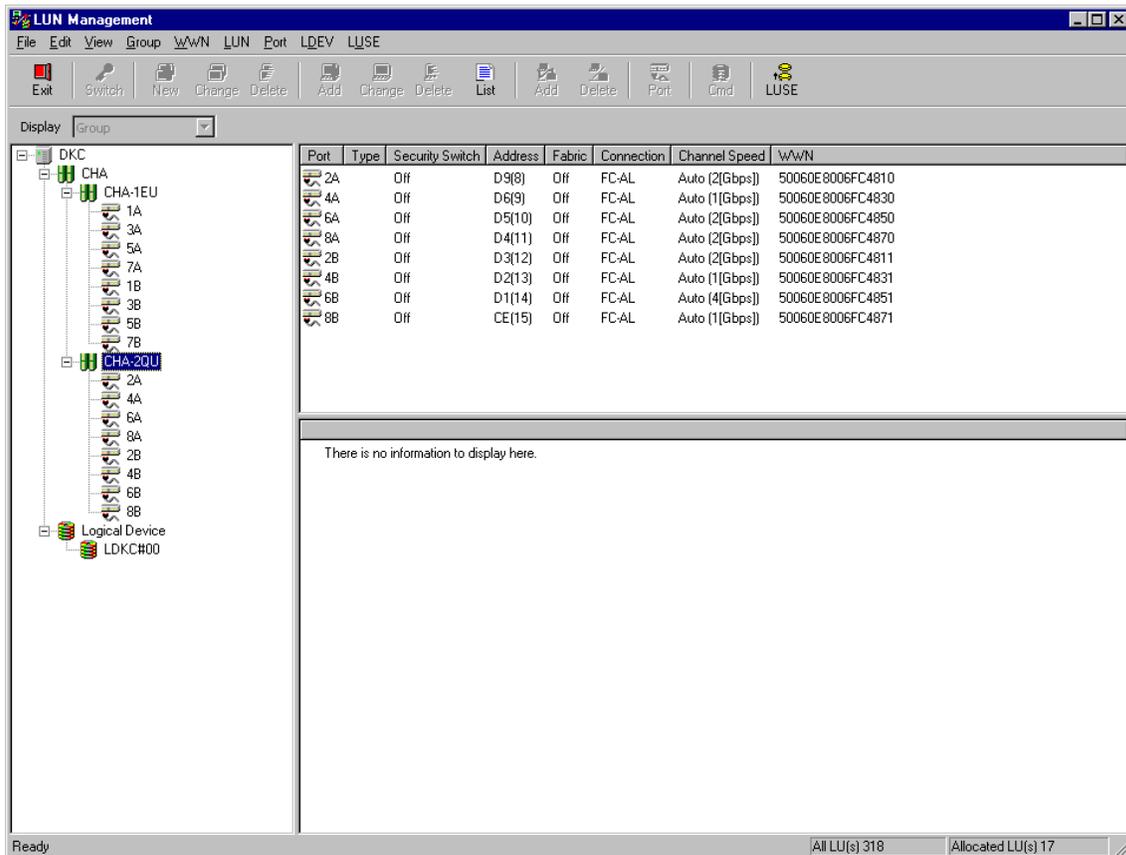


Fig. 3.10-2 CHA Window

When “CHA” in the tree view is selected (CL), installed CHA PCB’s supported by this function are displayed in the upper right list.

Table 3.10-3 Details of CHA Window

Item	Description
Upper list	Displays installed CHA PCB’s supported by this function. Displayed items: PCB name, Host Interface Type Provided with a sorting function.
Lower list	Displays nothing.

(3) Port Window

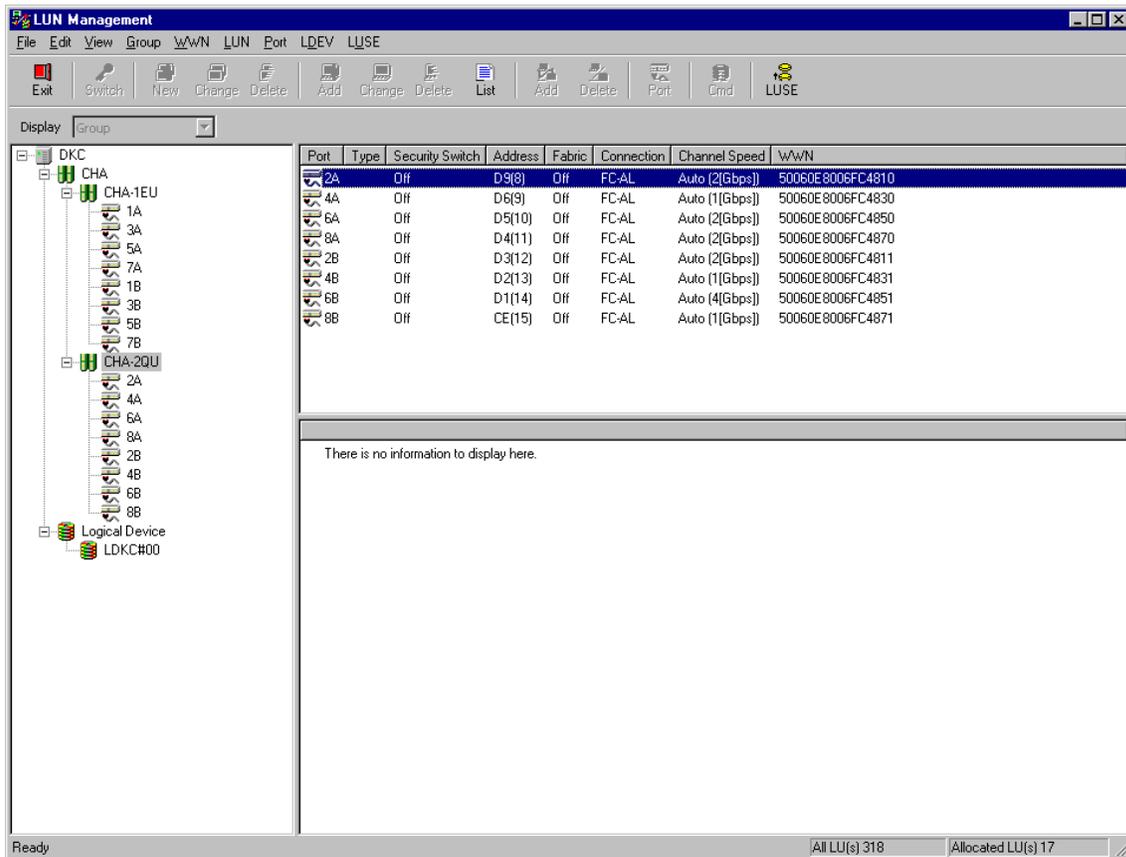


Fig. 3.10-3 Port Window

When “CHA locations” in the tree view is selected (CL), installed ports information supported by this function are displayed in the upper right list.

Table 3.10-4 Details of Port Window

Item	Description
Upper list	Displays installed ports supported by this function. Displayed items: Port name, type (Initiator, RCU target, External, or none:Target), AL-PA, Security Switch, fabric, connection type, and channel speed, WWN Provided with a sorting function.
Lower list	Displays no item.

(4) Group Window

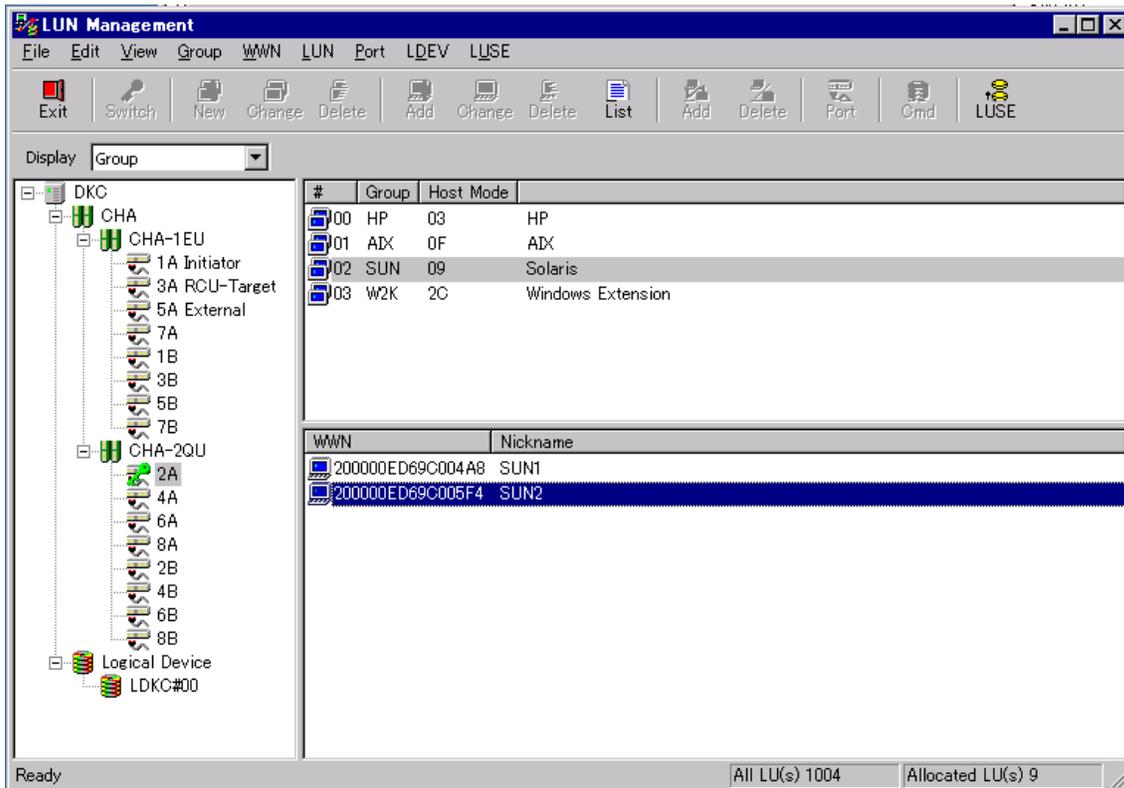


Fig. 3.10-4 Group Window

When “Port” in the tree view is selected, “Group” is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Table 3.10-5 Details of Group Window

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Displayed items: Group number, group name, and host mode (setting)
	Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. Displayed items: WWN (16 hexadecimal digits) and nickname (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.

(5) LUN Window

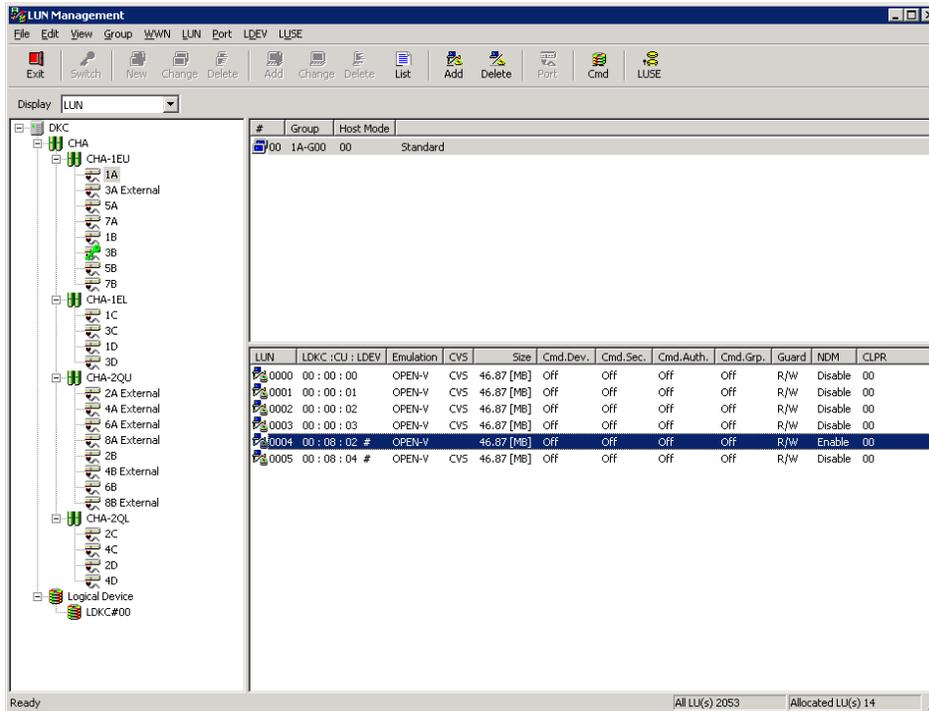


Fig. 3.10-5 LUN Window

When “Port” in the tree view is selected, “LUN” is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed

Table 3.10-6 Details of LUN Window

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Displayed items: Group number, group name, and host mode (setting) Provided with a sorting function.
Lower list	Displays LUN's defined as being contained in the group that has been selected from the upper list. Displayed items: LUN (four hexadecimal digits), LDKC:CU:LDEV number, emulation type (number of connectable in decimal), size (in Mbytes/Gbytes), Cmd.Dev. ('On*' shows the remote command device), Cmd.Sec., Cmd.Auth., Cmd.Grp, guard attribute, NDM attribute and CLPR number. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.) (Note) The following symbols may be added to LDKC:CU:LDEV #. Each meaning is shown. '+' : One LUN is set in other host groups. '+' : Two or more LUNs are set in other host groups. '#' : An external volume is shown. 'V' : A virtual volume for Copy-on-Write Snapshot/Thin Image is shown. 'X' : A Dynamic Provisioning volume is shown. Provided with a sorting function.

(5-1) LUN Status Window

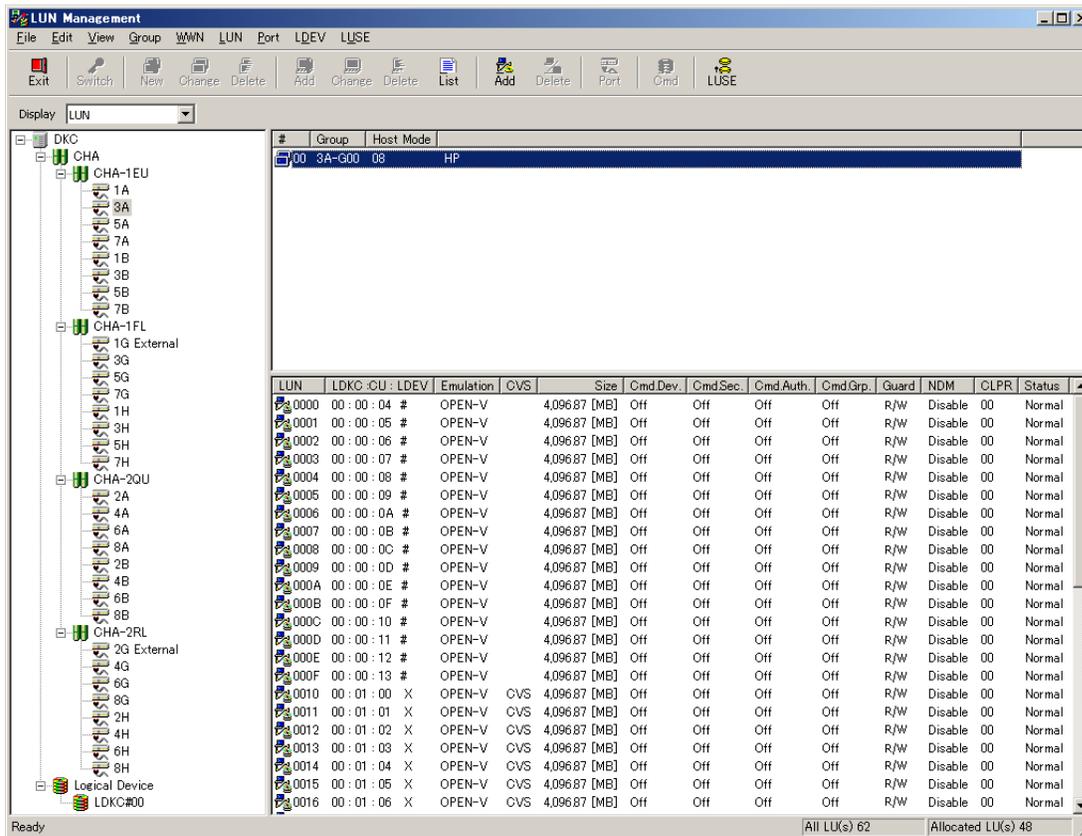


Fig.3.10-5.1 LUN Status Window

If you select LUN Status from View in the LUN Management panel, the LUN status will be displayed in the LUN list in the panel.

The following statuses are displayed in the list (Multiple statuses may be displayed).

By selecting LUN Status from View again, you can obtain the information again.

Table 3.10-6-1 LUN Status List

Status	Explanation
Normal	Normal device
BLK	It is not ready due to blockade.
OPR	It is reserved by the normal Open Reserve command.
KEY	Persistent Group Reserve key is set.
PGR	It is reserved by the Persistent Group Reserve command.
MFR	It is reserved by Mainframe.
H35R	It is reserved from the H3500 server.
ACA	It is in the ACA ACTIVE status.

(6) Logical Device Window

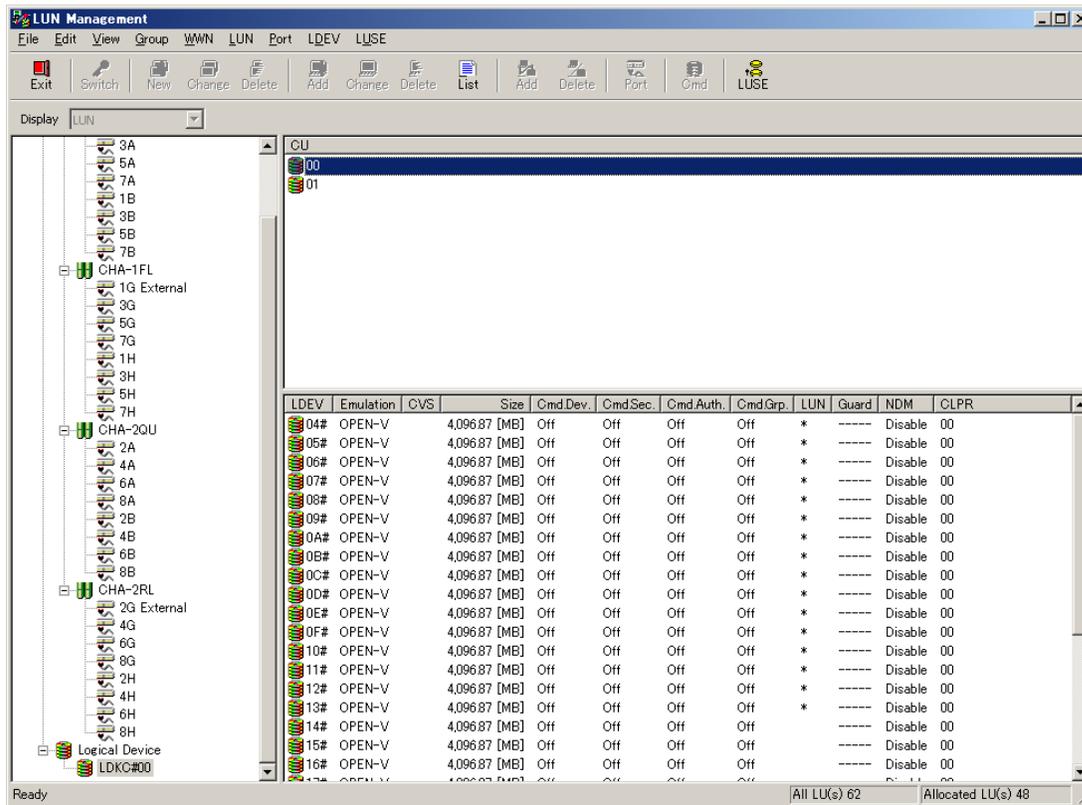


Fig. 3.10-6 Logical Device Window

When “Logical Device-LDKC#00” in the tree view is selected (CL), CU numbers of installed LDEV’s supported by this function are displayed in the upper right list. In the lower right list, details of a CU selected from the upper right list are displayed.

Table 3.10-7 Details of Logical Device Window

Item	Description
Upper list	Displays CU numbers of installed LDEV’s supported by this function. Displayed items: CU number (two hexadecimal digits)
	Provided with a sorting function.
Lower list	Displays details of a CU selected from the upper list. Displayed items: LDEV number (two hexadecimal digits), emulation type (number of connectable in decimal), CVS, size (in Mbytes/Gbytes), Cmd.Dev. (‘On*’ shows the remote command device), Cmd.Sec., Cmd.Auth., Cmd.Grp, definition of LUN (Defined: “*”, Not defined: No indication), guard attribute, NDM attribute and CLPR number. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	(Note) The following symbols may be added to LDEV #. Each meaning is shown. ‘#’ : An external volume is shown. ‘V’ : A virtual volume for Copy-on-Write Snapshot/Thin Image is shown. ‘X’ : A Dynamic Provisioning volume is shown. Provide with a sorting function.

(7) The host's WWN list windows linked to DKC

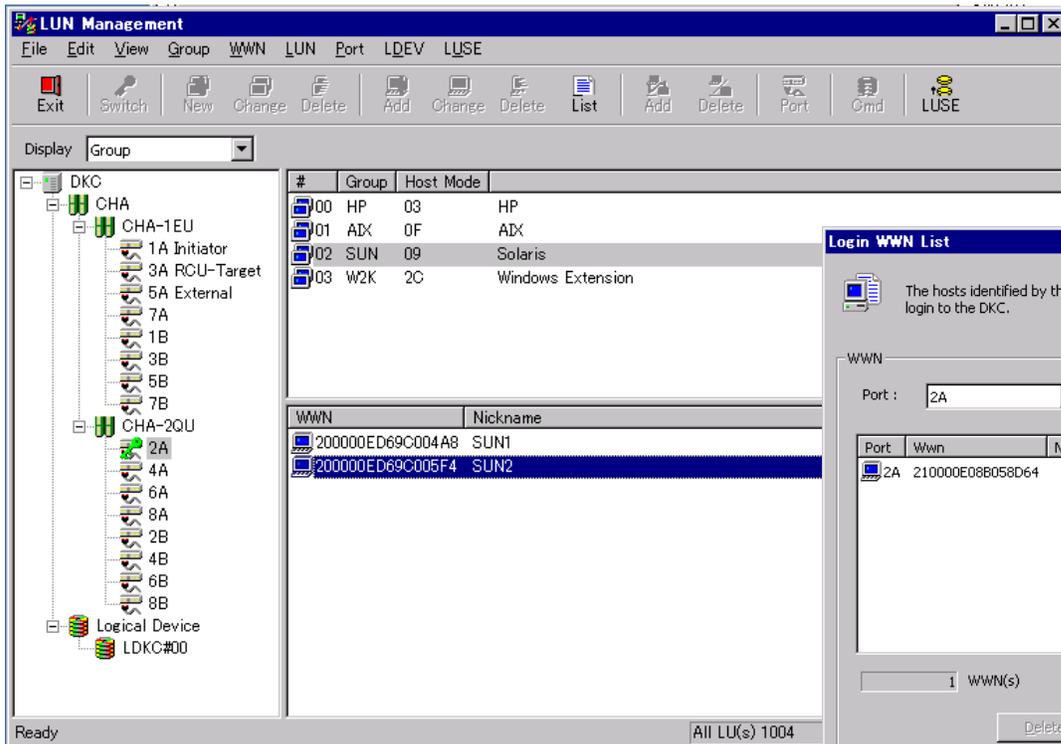


Fig. 3.10-7 Main Window

Fig. 3.10-8 Login WWN List Window

Select (DR) [Login List] from the [WWN] menu in the Main Window (Fig. 3.10-7), Login WWN List Window (Fig. 3.10-8) is displayed.

Table 3.10-8 Details Login WWN List window

Item	Description
Port	Specifies a port concerning the WWN to be displayed in the list. When "All Port" is selected, all WWNs in the list are displayed.
List	Displays a WWN list.
Delete button	Not selectable.
Refresh button	Displays the list again.
Close button	Returns you the Main window.

(8) LUSE Window

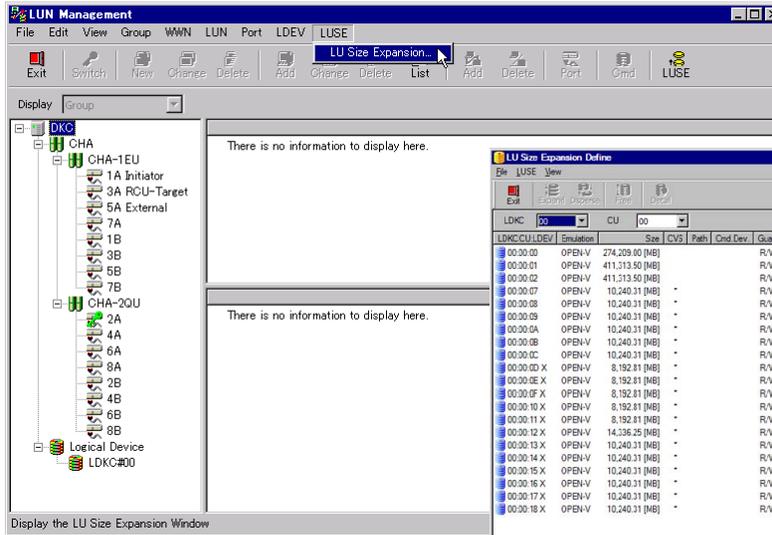


Fig. 3.10-9 Main Window

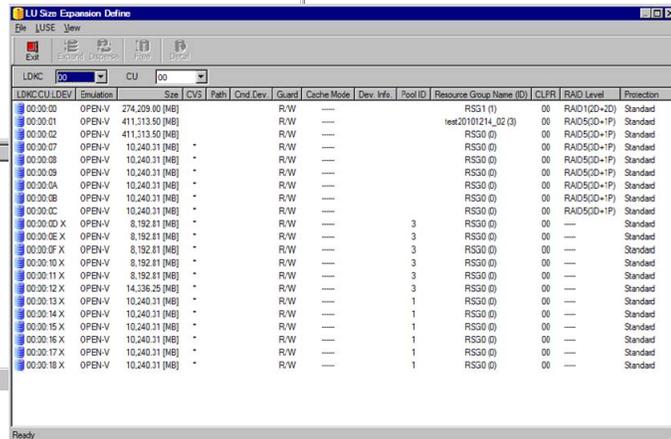


Fig. 3.10-10 LU Size Expansion Define Window

A reference of an LUSE is to be done in the following procedure. Select (DR) [LU Size Expansion...] from the [LUSE] menu in the main window (Fig. 3.10-9).

Detail of the 'LU Size Expansion Define' window (Fig. 3.10-10) is shown below.

Table 3.10-9 Detail and Operation of LU Size Expansion Define Window

Item	Description
LDKC list	A list of LDKCs having LUs to be used for an LUSE.
CU list	A list of CUs having LUs to be used for an LUSE.
LU list	<p>A list showing statuses of LUSES made under the CU selected from the CU list Menu items and their functions are shown below.</p> <p>Displayed items: LUN, LDKC:CU:LDEV number, emulation type (number of connectable in decimal), size (in Mbytes/Gbytes), CVS, Path(Exists:*/Exists paths defined Host Mode OC.), Cmd.Dev., Cmd.Sec., guard attribute, Cache Mode, Dev. Info, Pool ID, Resource Group Name (Resource Group ID), CLPR number and RAID Level, Protection Level.</p> <p>(Note) The following symbols may be added to LDKC:CU:LDEV #. Each meaning is shown.</p> <p>‘#’ : An external volume is shown. ‘V’ : A virtual volume for Copy-on-Write Snapshot/Thin Image is shown. ‘X’ : A Dynamic Provisioning volume is shown.</p> <p>SATA-W/V : Write & Verify method of SATA drives. SATA-E : Enhanced method of SATA drives. Standard : SAS drives/SSD drives/FMD drives/external volumes/virtual volumes.</p> <p>(See THEORY OF OPERATION SECTION)</p>

(To be continued)

(Continued from preceding page)

Item	Description
Exit button	Closes the window.
Expand button	Not selectable.
Disperse button	Not selectable.
Free button	Not selectable.
Detail button	Refers to status of connection of LUSEs.

(9) Refers to status of connection of LUSEs

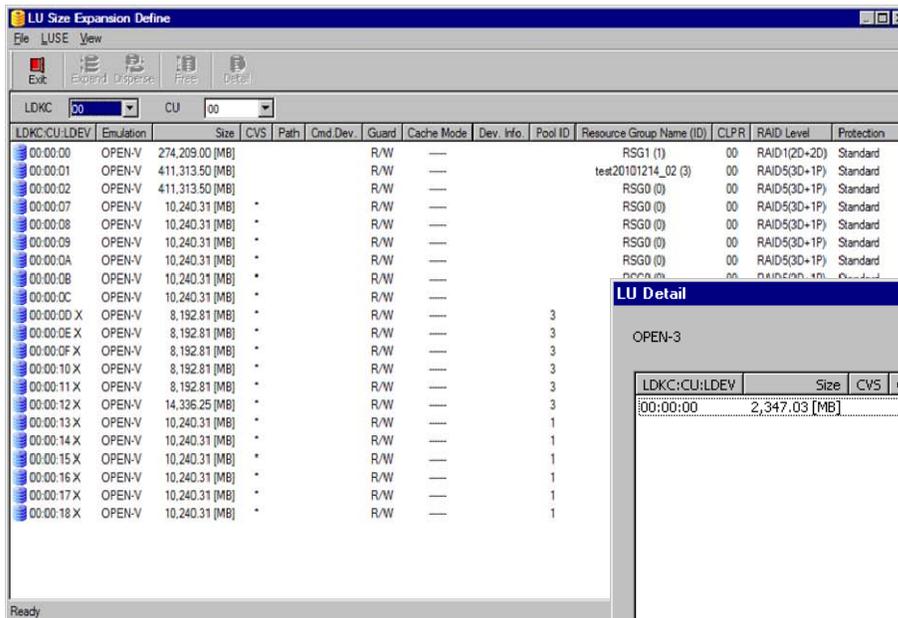


Fig. 3.10-11 LU Size Expansion Define Window

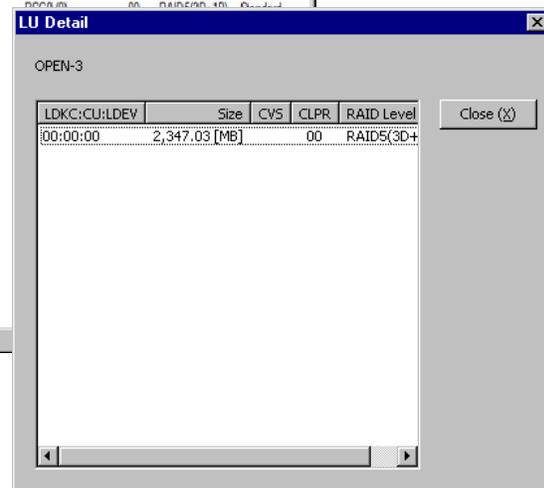


Fig. 3.10-12 LU Detail Window

Reference to a connection status of an LUSE is done in the following procedure.

Select an LUSE, whose connection status is to be referred to, in the 'LU Size Expansion Define' window and select (DR) [Detail...] from the [LUSE] menu.

Since the 'LU Detail' window (Fig. 3.10-12) is displayed, refer to a status of the LU connection.

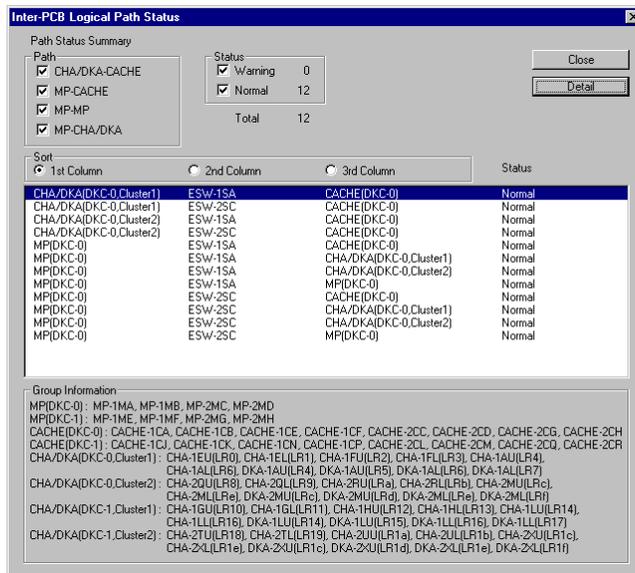
Detail of the 'LU Detail' window (Fig. 3.10-12) is shown below.

Table 3.10-10 Detail and Operation of LU Detail Window

Item	Description
LU list	Displays a status of the LU connection. Displayed items: LDKC:CU:LDEV number, size (in Mbytes/Gbytes), CVS, CLPR number and RAID Level, Protection Level.
Close button	Close the window.

3.11 Inter-PCB Logical Path

- (1) The window for displaying status for each summary path.



Path (Check box)-----

CHA/DKA-CACHE : Specifies display of summary path between CHA/DKA and CACHE

MP-CACHE : Specifies display of summary path between MP and CACHE

MP-MP : Specifies display of summary path between MP and MP

MP-CHA/DKA : Specifies display of summary path between MP and CHA/DKA

Status (Check box)--

Warning : Specifies display of failed paths and displays number of the failed paths.

Normal : Specifies display of normal paths and displays number of normal paths.

Total ----- Total number of paths that can be displayed

Sort (Radio button) -

1st Column : Summary path group names are displayed in the row.

When this row is selected, the path statuses in the list are sorted using the letter strings in the 1st row as a key word.

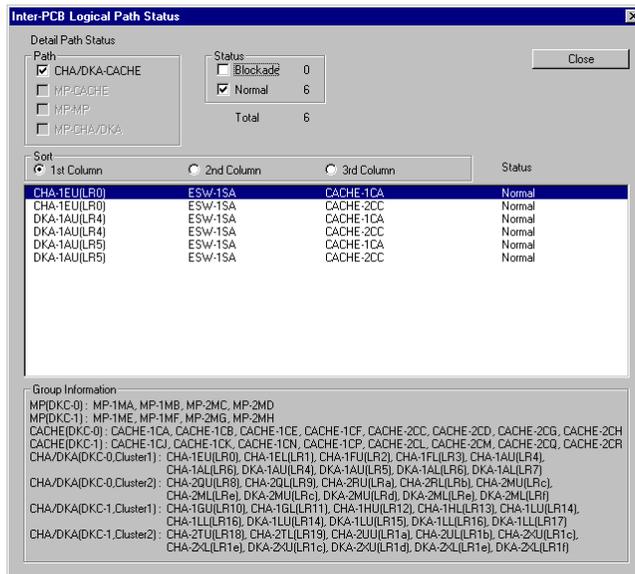
2nd Column : ESW location names are displayed in this row. When this row is selected, the path statuses in the list are sorted using the ESW location names as a key word.

3rd Column : Summary path group names are displayed in this row.

When this row is selected, the path statuses in the list are sorted using the letter strings in the 3rd row as a key word.

Status ----- A status of each path is displayed.
Normal : A status in which a path concerned is normal
Warning : A status in which a failure occurred in a path concerned
Detail (Button)----- Displays detailed path status.
Close (Button) ----- Terminates the display.
Group Information -- Information of each group making up summary path.

(2) Detailed path status display window



Path (Check box)---- Among four types of logic paths, the type of logic path which is displayed is checked. Other check boxes are not checked. Check box is not selectable.

Status (Check box)--

Blockade : Specifies display of blocked paths and displays number of the blocked paths.

Normal : Specifies display of normal paths and displays number of the normal paths.

Total ----- Total number of paths that can be displayed

Sort (Radio button) -

1st Column : Location names are displayed in the row. When this row is selected, the path statuses in the list are sorted using the letter strings in the 1st row as a key word.

2nd Column : ESW location names are displayed in this row. When this row is selected, the path statuses in the list are sorted using the ESW location names as a key word.

3rd Column : Location names are displayed in this row. When this row is selected, the path statuses in the list are sorted using the letter strings in the 3rd row as a key word.

Status ----- Status of each path is displayed.

Normal : Status in which a path concerned is normal

Blockade : Status in which a path concerned is blocked

Close (Button) ----- Terminates the display.

Group Information -- Information of each group making up summary path.

3.12 Error or Failure Status Action

When an error status of, Warning, Failure, or other is displayed on the screen and any action is required, locate the part in error and follow the instructions according to the action code (ACC). The ACC can be obtained by executing the SSB log or the SIM log displayed function of the SVP.